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=> file reg
FILE 'REGISTRY' ENTERED AT 16:21:33 ON 19 MAY 2004
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=> display history full l1-

     FILE 'HCAPLUS' ENTERED AT 15:26:21 ON 19 MAY 2004
L1           22 SEA BENTHIEN ?/AU
L2         2656 SEA FABER ?/AU
L3           50 SEA JONSCHKER ?/AU
L4           32 SEA SEPEUR ?/AU
L5        51932 SEA SCHMIDT ?/AU
L6           14 SEA STOEBEL ?/AU OR STOBEL ?/AU
L7            0 SEA L1 AND L2 AND L3 AND L4 AND L5 AND L6
L8           39 SEA (L2 OR L5) AND (L1 OR L3 OR L4 OR L6)
L9              QUE CAT# OR CATALY?
L10       26224 SEA DEODOR?
L11          11 SEA L8 AND L9
L12           2 SEA L8 AND L10
L13           2 SEA L11 AND L12
                SEL L13 1-2 RN

     FILE 'REGISTRY' ENTERED AT 15:30:41 ON 19 MAY 2004
L14          35 SEA (10108-73-3/BI OR 10377-66-9/BI OR 1067-25-0/BI OR
L15           6 SEA L14 AND SI/ELS
L16          29 SEA L14 NOT L15
L17          25 SEA L16 AND M/ELS
L18          11 SEA L17 AND O/ELS
L19           8 SEA L18 AND 2/ELC.SUB
                D L15 1-6 RN STR
                SEL L15 2,3,4,5 RN
L20           4 SEA (1067-25-0/BI OR 2031-67-6/BI OR 78-62-6/BI OR
                780-69-8/BI)

     FILE 'HCA' ENTERED AT 15:35:14 ON 19 MAY 2004
L21       85738 SEA L19
L22        3884 SEA L20

     FILE 'LCA' ENTERED AT 15:35:21 ON 19 MAY 2004
L23       14809 SEA (INHIBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC?
                OR REDN# OR RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT?
                OR PREVENT? OR BLOCK? OR ELIMINAT?)/BI,AB
L24          20 SEA (INHIBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC?
                OR REDN# OR RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT?
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OR PREVENT? OR BLOCK? OR ELIMINAT? OR LESS? OR DECREAS? OR LOW OR LOWER? OR DIMINISH?)(2A)(ODOR? OR ODOUR? OR SMELL? OR FRAGRAN? OR AROMA# OR SCENT? OR ORGANOLEP? OR AMBROS?)

L25 44 SEA (INHIBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC? OR REDN# OR RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT? OR PREVENT? OR BLOCK? OR ELIMINAT? OR LESS? OR DECREAS? OR LOW OR LOWER? OR DIMINISH?)(2A)(OLFACT? OR BOUQUET? OR AMBROS? OR ORGANOLEP?) OR DEODOR? OR DEODOUR?

L26 0 SEA ANTI(2A)(ODOR? OR ODOUR? OR SMELL? OR FRAGRAN? OR AROMA# OR SCENT? OR ORGANOLEP? OR AMBROS? OR BOUQUET? OR OLFACT?) OR ANTIODOR? OR ANTIODOUR? OR ANTISMELL? OR ANTIFRAGRAN? OR ANTIAROMA# OR ANTISCENT? OR UNSCENT? OR ANTIOLFACT? OR ANTIORGANOLEP?

FILE 'HCA' ENTERED AT 15:47:12 ON 19 MAY 2004

L27 33058 SEA L24 OR L25 OR L26 OR DEODOR?

L28 26 SEA L21 AND L22

L29 2 SEA L28 AND L27

L30 QUE OXIDA? OR OXIDI? OR OXIDN#

L31 2 SEA L28 AND L30

FILE 'LREGISTRY' ENTERED AT 15:50:27 ON 19 MAY 2004

L32 STR

FILE 'REGISTRY' ENTERED AT 15:56:45 ON 19 MAY 2004

L33 26 SEA SSS SAM L32

L34 SCR 2043

L35 5 SEA SSS SAM L32 NOT L34

L36 SCR 1918

L37 9 SEA SSS SAM L32 NOT (L34 OR L36)

L38 2518 SEA SSS FUL L32 NOT (L34 OR L36)
SAV L38 LAV464/A

L39 3474 SEA ((LA OR CE OR TI OR ZR OR V OR CR OR MO OR W OR MN OR FE OR CO OR NI OR CU OR AG OR ZN) (L) O)/ELS (L) 2/ELC.SUB

L40 1757 SEA L39 AND TIS/CI
SAV L40 LAV464A/A

L41 0 SEA L40 AND L19

L42 8 SEA L39 AND L19
DEL LAV464A/A
SAV L39 LAV464A/A

FILE 'HCA' ENTERED AT 16:07:38 ON 19 MAY 2004

L43 16311 SEA L38

L44 467931 SEA L39

L45 1339 SEA (L43 OR L22) AND (L44 OR L21)

L46 13 SEA L45 AND L27

```
L47           57 SEA L45 AND L30
                 E COATINGS/CV
L48         7706 SEA COATINGS/CV
                 E COATING MATERIALS/CV
L49       245853 SEA "COATING MATERIALS"/CV
                 E COATING PROCESS/CV
L50       110602 SEA "COATING PROCESS"/CV
L51              QUE CAT# OR CATALY?
L52           12 SEA L47 AND (L48 OR L49 OR L50)
L53           24 SEA L47 AND L51
L54            5 SEA L52 AND L53

     FILE 'LCA' ENTERED AT 16:16:57 ON 19 MAY 2004
L55         7647 SEA (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR
                 OVERLAID? OR LAMIN? OR LAMEL? OR SHEET? OR LEAF? OR
                 FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR
                 SHEATH? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR
                 OVERSPREAD?)/BI,AB

     FILE 'HCA' ENTERED AT 16:17:21 ON 19 MAY 2004
L56           12 SEA L53 AND L55
L57            5 SEA L29 OR L31 OR L54
L58           24 SEA (L46 OR L52 OR L56) NOT L57
L59           12 SEA L53 NOT (L57 OR L58)
L60           25 SEA L47 NOT (L57 OR L58 OR L59)

     FILE 'REGISTRY' ENTERED AT 16:21:33 ON 19 MAY 2004


=> d l38 que stat
L32             STR
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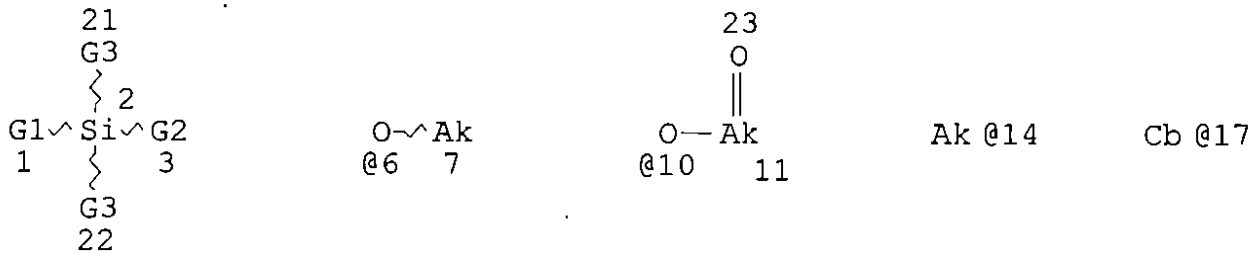


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VAR G2=OH/6/10
VAR G3=14/17/OH/6/10
NODE ATTRIBUTES:
CONNECT IS E1  RC AT   7
CONNECT IS E1  RC AT  11
CONNECT IS E1  RC AT  14
CONNECT IS E1  RC AT  17
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DEFAULT MLEVEL IS ATOM
GGCAT    IS SAT  AT   7
GGCAT    IS SAT  AT  11
GGCAT    IS SAT  AT  14
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  12

STEREO ATTRIBUTES: NONE
L34              SCR 2043
L36              SCR 1918
L38         2518 SEA FILE=REGISTRY SSS FUL L32 NOT (L34 OR L36)

100.0% PROCESSED 350421 ITERATIONS                          2518 ANSWERS
SEARCH TIME: 00.00.08


=> file hca
FILE 'HCA' ENTERED AT 16:21:59 ON 19 MAY 2004
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=> d l57 1-5 cbib abs hitstr hitind

L57  ANSWER 1 OF 5  HCA  COPYRIGHT 2004 ACS on STN
138:57503  Preparation of scratch and abrasion resistant polymeric
     nanocomposites by monomer grafting onto nanoparticles. Part 3.
     Effect of filler particles and grafting agents.  Bauer, Frank;
     Sauerland, Volker; Glasel, Hans-Jurgen; Ernst, Horst; Findeisen,
     Matthias; Hartmann, Eberhard; Langguth, Helmut; Marquardt, Barbel;
     Mehnert, Reiner (Institut fur Oberflachenmodifizierung, Permoserstr.
     15, Leipzig, D-04318, Germany).  Macromolecular Materials and
     Engineering, 287(8), 546-552 (English) 2002.  CODEN: MMENFA.  ISSN:
     1438-7492.  Publisher: Wiley-VCH Verlag GmbH & Co. KGaA.
AB   The effect of methacroyloxypropyl-, vinyl-, and
     propyltrimethoxysilanes as surface modifiers and pyrogenic silica,
     alumina, zirconia, and titania as nanoparticles on the viscoelastic
     and surface mech. properties of the corresponding radiation-cured
     polyacrylate nanocomposites was investigated.  Polysiloxane shells
     yielding core-shell nanocapsules were formed by acid-
     catalyzed condensation of above mentioned alkoxysilanes on
     the surface of the oxide nanoparticles.  The crosslinked
     polysiloxanes were anchored onto the particle surface by
```
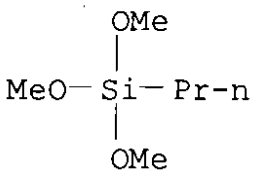
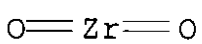

condensation reactions with oxide OH-groups. The grafting of the different silanes was studied by temp.-programmed **oxidn.**, photoelectron spectroscopy, and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. The modified nanoparticles as well as the coatings were characterized by multinuclear (1H, 13C, 27Al, and 29Si) solid-state NMR spectroscopy. Surface hardness of composite materials was examd. by abrasion, haze, and scratch tests. A comparison between different sources of silica nanopowders is presented.

IT **1067-25-0DP**, Dynasylan PTMO, reaction products with metal oxides **1314-23-4DP**, Zirconia, reaction products with vinyltrimethoxysilane **13463-67-7DP**, Titania, reaction products with vinyltrimethoxysilane
(prepn. of scratch and abrasion resistant polymeric nanocomposites by monomer grafting onto nanoparticles)

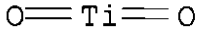
RN 1067-25-0 HCA
CN Silane, trimethoxypropyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



CC 42-4 (Coatings, Inks, and Related Products)
Section cross-reference(s): 37

IT **Coating materials**
(abrasion-resistant; prepn. of scratch and abrasion resistant polymeric nanocomposites by monomer grafting onto nanoparticles)

IT **Coating materials**
(scratch-resistant; prepn. of scratch and abrasion resistant polymeric nanocomposites by monomer grafting onto nanoparticles)

IT **1067-25-0DP**, Dynasylan PTMO, reaction products with metal oxides **1314-23-4DP**, Zirconia, reaction products with vinyltrimethoxysilane 1344-28-1DP, Alumina, reaction products with

methacroyloxy(propyl)trimethoxysilane 2530-85-0DP, Dynasylan MEMO, reaction products with metal oxides 2768-02-7DP, Dynasylan VTMO, reaction products with metal oxides **13463-67-7DP**, Titania, reaction products with vinyltrimethoxysilane
(prepn. of scratch and abrasion resistant polymeric nanocomposites by monomer grafting onto nanoparticles)

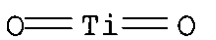
L57 ANSWER 2 OF 5 HCA COPYRIGHT 2004 ACS on STN
134:256186 Photocatalyst coatings and formation of their films for removal of NOx from air. Mori, Kazuhiko; Nakamura, Mitsuru; Tanaka, Masayoshi (Nihon Parkerizing Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001081412 A2 20010327, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-264024 19990917.

AB The coatings contain 40,000 wt. parts TiO2, 1-200 wt. parts (as metals) water-sol. Pd compds. and/or water-sol. Pt compds. which enhance **catalytic** activity, and 1000-40,000 wt. parts binders. Alternatively, the coatings comprise components (A) contg. 40,000 wt. parts TiO2, 1000-40,000 wt. parts inorg. binders, and 1-200 wt. parts water-sol. Pd compds. and/or water-sol. Pt compds. and components (B) contg. 200-2000 wt. parts alkoxysilanes and liq. alc. solvents. The photocatalyst coating films are formed by applying the coatings on substrates an heat-drying the coating layers. The coatings show good film-forming properties and high efficiency and durability in NOx removal.

IT **13463-67-7**, Titania, uses
(photocatalyst coatings contg. TiO2 and Pd and/or Pt compds. for removal of NOx from air)

RN 13463-67-7 HCA

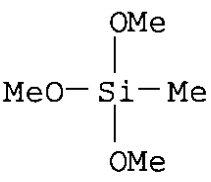
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **1185-55-3**, Methyltrimethoxysilane
(photocatalyst coatings contg. TiO2 and Pd and/or Pt compds. for removal of NOx from air)

RN 1185-55-3 HCA

CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C09D201-00
ICS B01J023-44; B01J035-02; B01J037-34; B05D003-06; C09D005-00

CC 59-6 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 42, 74

IT **Coating materials**
(photocatalyst coatings contg. TiO2 and Pd and/or Pt compds. for removal of NOx from air)

IT Air purification
(photocatalytic **oxidn.**; photocatalyst coatings contg. TiO2 and Pd and/or Pt compds. for removal of NOx from air)

IT **Oxidation catalysts**
(photooxidn.; photocatalyst coatings contg. TiO2 and Pd and/or Pt compds. for removal of NOx from air)

IT 7440-05-3D, Palladium, chlorammine complexes, uses 7440-06-4D, Platinum, chlorammine complexes, uses **13463-67-7**, Titania, uses
(photocatalyst coatings contg. TiO2 and Pd and/or Pt compds. for removal of NOx from air)

IT **1185-55-3**, Methyltrimethoxysilane
(photocatalyst coatings contg. TiO2 and Pd and/or Pt compds. for removal of NOx from air)

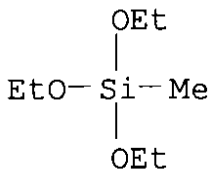
L57 ANSWER 3 OF 5 HCA COPYRIGHT 2004 ACS on STN
133:312622 A low weight resistant porous glass fiber having physical, chemical or biological properties. Kiwi-minsker, Lioubov; Iouranov, Igor; Renken, Albert (Ecole Polytechnique Federale De Lausanne, Switz.). Eur. Pat. Appl. EP 1044935 A1 20001018, 13 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1999-810305 19990413.

AB A low wt. resistant porous glass fiber with a developed sp. surface area of 5-120 times the outer surface of a std. glass fiber, and a material having phys., chem. or biol. reactive properties deposited on the developed surface area of porous glass fiber are described. Another low wt. resistant porous glass fiber with a developed sp. surface area of 20-200 times the outer surface of a std. glass fiber is presented. The developed surface of porous glass fiber is coated with a support material for a material which has phys., chem. or biol. reactive properties and which is deposited on the intermediate support material covering the porous glass fiber. Corresponding prepn. processes and various uses are described.

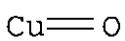
IT **2031-67-6**, Methyltriethoxysilane
(coating precursor; manuf. of low wt. resistant porous glass fibers modified by metal oxides)

RN 2031-67-6 HCA

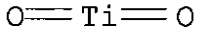
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IT **1308-38-9P**, Chromium oxide (Cr2O3), preparation
1317-38-0P, Copper oxide (CuO), preparation
13463-67-7P, Titania, preparation
(coating; manuf. of low wt. resistant porous glass fibers modified by metal oxides)
RN 1308-38-9 HCA
CN Chromium oxide (Cr2O3) (8CI, 9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 1317-38-0 HCA
CN Copper oxide (CuO) (8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **1314-62-1**, Vanadium oxide (V2O5), uses
(in coating; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)
RN 1314-62-1 HCA
CN Vanadium oxide (V2O5) (8CI, 9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IC ICM C03C025-66
ICS C03C025-10; C03C025-48
CC 57-1 (Ceramics)
Section cross-reference(s): 67
IT Glass fiber fabrics
(**catalyst** supports; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)
IT **Oxidation**
(**catalytic**, of carbon monoxide; manuf. of glass fiber **catalysts** and their applications)
IT **Oxidation**
(complete, of propane; manuf. of glass fiber **catalysts** and their applications)

IT Alkylation
Photolysis
Sorbents
(manuf. of glass fiber **catalysts** and their applications)

IT **Coating materials**
(metal oxides; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)

IT Hydroxylation
(of phenol; manuf. of glass fiber **catalysts** and their applications)

IT **Coating process**
(of porous glass fibers; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)

IT **Catalysts**
(platinum and gold; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)

IT **Catalyst** supports
(porous glass fibers; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)

IT 78-10-4 **2031-67-6**, Methyltriethoxysilane 7664-93-9, Sulfuric acid, processes 7784-27-2, Aluminum nitrate nonahydrate 7789-02-8 10031-43-3 13825-74-6 13986-27-1 14285-63-3
(coating precursor; manuf. of low wt. resistant porous glass fibers modified by metal oxides)

IT **1308-38-9P**, Chromium oxide (Cr2O3), preparation **1317-38-0P**, Copper oxide (CuO), preparation 1344-28-1P, Aluminum oxide (Al2O3), preparation 7631-86-9P, Silica, preparation **13463-67-7P**, Titania, preparation
(coating; manuf. of low wt. resistant porous glass fibers modified by metal oxides)

IT 74-98-6, Propane, processes
(complete **oxidn.**; manuf. of glass fiber **catalysts** and their applications)

IT 7440-06-4, Platinum, uses 7440-57-5, Gold, uses
(deposited on porous fiber, **catalyst**; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)

IT 108-95-2, Phenol, processes
(hydroxylation; manuf. of glass fiber **catalysts** and their applications)

IT **1314-62-1**, Vanadium oxide (V2O5), uses
(in coating; manuf. of low wt. resistant porous glass fibers by leaching aluminoborosilicate glass fibers and their applications)

L57 ANSWER 4 OF 5 HCA COPYRIGHT 2004 ACS on STN
133:285681 Silane-based coating with a **deodorizing** effect for domestic appliances. Benthien, Thomas; Faber, Stefan; Jonschker, Gerhard; Sepeur, Stefan; Schmidt, Helmut; Stossel, Philipp; Jordens, Frank; Schmidmayer, Gerhard (Institut Fur Neue Materialien Gem. G.m.b.H., Germany; Bsh Bosch Und Siemens Hausgerate G.m.b.H.). PCT Int. Appl. WO 2000059555 A1 20001012, 29 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (German). CODEN: PIXXD2. APPLICATION: WO 2000-EP3021 20000405. PRIORITY: DE 1999-19915378 19990406.

AB The invention relates to domestic appliances that are provided with a **catalytic** compn. comprising a coating consisting of a coating mass on a substrate. Said compn. is obtained by applying the coating mass, which comprises (a) a polycondensate consisting of at least one hydrolyzable organosilane and optionally, one or more compds. of glass-forming elements and (b) particles of one or more transition metal oxides, the wt. ratio of transition metal oxide particles to polycondensate being 10:1 to 1:10, to the substrate and heat-treating the applied coating mass. This **catalytic** compn. is a constituent part of the domestic appliance or a device connected to the domestic appliance.

IT **1307-96-6**, Cobaltous oxide, uses **1308-06-1**, Cobalt oxide (Co3O4) **1313-99-1**, Nickel oxide (NiO), uses **1317-39-1**, Cuprous oxide, uses **1344-43-0**, Manganese oxide (MnO), uses **12014-74-3**, Cerium oxide (CeO)
(silane-based coating with a **deodorizing** effect for domestic appliances)

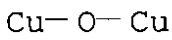
RN 1307-96-6 HCA
CN Cobalt oxide (CoO) (8CI, 9CI) (CA INDEX NAME)

Co=O

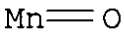
RN 1308-06-1 HCA
CN Cobalt oxide (Co3O4) (8CI, 9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 1313-99-1 HCA
CN Nickel oxide (NiO) (8CI, 9CI) (CA INDEX NAME)

Ni=O

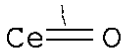
RN 1317-39-1 HCA
CN Copper oxide (Cu2O) (8CI, 9CI) (CA INDEX NAME)



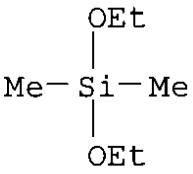
RN 1344-43-0 HCA
CN Manganese oxide (MnO) (8CI, 9CI) (CA INDEX NAME)



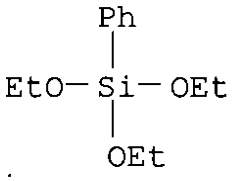
RN 12014-74-3 HCA
CN Cerium oxide (CeO) (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



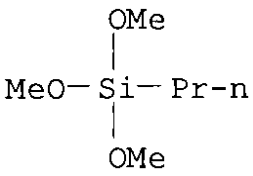
IT **78-62-6**, Dimethyldiethoxysilane **780-69-8**, Phenyltriethoxysilane **1067-25-0 2031-67-6**, Methyltriethoxysilane
(silane-based coating with a **deodorizing** effect for domestic appliances)
RN 78-62-6 HCA
CN Silane, diethoxydimethyl- (8CI, 9CI) (CA INDEX NAME)



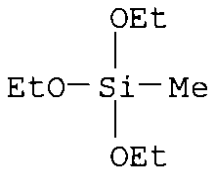
RN 780-69-8 HCA
CN Silane, triethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1067-25-0 HCA
CN Silane, trimethoxypropyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IC ICM A61L009-014
ICS C09D183-04; C08K003-22
CC 59-4 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 67
ST silane based coating **catalytic oxidative deodorizing**
IT **Catalyst** supports
(ceramic honeycomb; silane-based coating with a **deodorizing** effect for domestic appliances)
IT Appliances
Ceramics
Coating materials
Glass ceramics
(silane-based coating with a **deodorizing** effect for domestic appliances)
IT Glass, reactions
Metals, reactions
Oxides (inorganic), reactions
Silanes
Transition metals, reactions
(silane-based coating with a **deodorizing** effect for domestic appliances)
IT Organic compounds, processes
(silane-based coating with a **deodorizing** effect for domestic appliances)
IT 7631-86-9, Levasil 300/30, reactions
(colloidal; silane-based coating with a **deodorizing** effect for domestic appliances)
IT **1307-96-6**, Cobaltous oxide, uses **1308-06-1**, Cobalt oxide (Co3O4) **1313-99-1**, Nickel oxide (NiO), uses

1317-39-1, Cuprous oxide, uses **1344-43-0**, Manganese oxide (MnO), uses **12014-74-3**, Cerium oxide (CeO)
(silane-based coating with a **deodorizing** effect for domestic appliances)

IT 64-17-5, Ethanol, reactions 78-10-4, Tetraethoxysilane **78-62-6**, Dimethyldiethoxysilane **780-69-8**, Phenyltriethoxysilane **1067-25-0 2031-67-6**, Methyltriethoxysilane 3251-23-8 7439-89-6, Iron, reactions 7439-91-0, Lanthanum, reactions 7439-96-5, Manganese, reactions 7439-98-7, Molybdenum, reactions 7440-02-0, Nickel, reactions 7440-22-4, Silver, reactions 7440-32-6, Titanium, reactions 7440-33-7, Tungsten, reactions 7440-44-0, Carbon, reactions 7440-45-1, Cerium, reactions 7440-47-3, Chromium, reactions 7440-48-4, Cobalt, reactions 7440-50-8, Copper, reactions 7440-62-2, Vanadium, reactions 7440-67-7, Zirconium, reactions 7647-01-0, Hydrogen chloride, reactions 10108-73-3, Cerium nitrate 10377-66-9, Manganese nitrate
(silane-based coating with a **deodorizing** effect for domestic appliances)

IT 12597-69-2, Steel, uses
(wire mesh; silane-based coating with a **deodorizing** effect for domestic appliances)

L57 ANSWER 5 OF 5 HCA COPYRIGHT 2004 ACS on STN

133:285680 Silane-based coating mass with a **catalytic**, **oxidative** and **deodorizing** effect. Benthien, Thomas; Faber, Stefan; Jonschker, Gerhard; Sepeur, Stefan; Schmidt, Helmut; Stossel, Philipp (Institut fur Neue Materialien Gem. G.m.b.H., Germany). PCT Int. Appl. WO 2000059554 A1 20001012, 33 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (German). CODEN: PIXXD2. APPLICATION: WO 2000-EP3020 20000405. PRIORITY: DE 1999-19915377 19990406.

AB The invention relates to a **catalytic** compn., comprising a coating which consists of a coating mass on a support. The compn. can be obtained by applying the coating mass, which comprises (1) a polycondensate consisting of at least one hydrolyzable organosilane and optionally, one or more compds. of glass-forming elements, and (2) particles of one or more transition metal oxides, the wt. ratio of transition metal oxide particles to polycondensate being 10:1 to 1:10, to the support and heat-treating the applied coating mass. The invention also relates to a method for producing this

catalytic compn. and to its use for **deodorization** or for **oxidizing** org. components or carbon.

IT **1306-38-3**, Cerium oxide (CeO2), uses **1307-96-6**, Cobaltous oxide, uses **1308-06-1**, Cobalt oxide (Co3O4) **1313-13-9**, Manganese oxide (MnO2), uses **1313-99-1**, Nickel oxide (NiO), uses **1317-39-1**, Cuprous oxide, uses (silane-based coating mass with a **catalytic**, **oxidative** and **deodorizing** effect)

RN 1306-38-3 HCA
CN Cerium oxide (CeO2) (8CI, 9CI) (CA INDEX NAME)

O=Ce=O

RN 1307-96-6 HCA
CN Cobalt oxide (CoO) (8CI, 9CI) (CA INDEX NAME)

Co=O

RN 1308-06-1 HCA
CN Cobalt oxide (Co3O4) (8CI, 9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 1313-13-9 HCA
CN Manganese oxide (MnO2) (8CI, 9CI) (CA INDEX NAME)

O=Mn=O

RN 1313-99-1 HCA
CN Nickel oxide (NiO) (8CI, 9CI) (CA INDEX NAME)

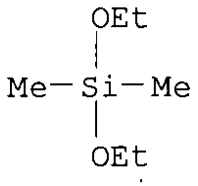
Ni=O

RN 1317-39-1 HCA
CN Copper oxide (Cu2O) (8CI, 9CI) (CA INDEX NAME)

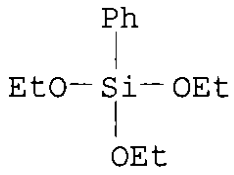
Cu-O-Cu

IT **78-62-6**, Dimethyldiethoxysilane **780-69-8**, Phenyltriethoxysilane **1067-25-0** **2031-67-6**, Methyltriethoxysilane (silane-based coating mass with a **catalytic**, **oxidative** and **deodorizing** effect)

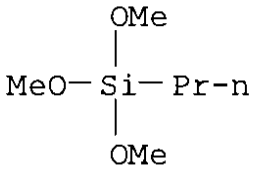
RN 78-62-6 HCA
CN Silane, diethoxydimethyl- (8CI, 9CI) (CA INDEX NAME)



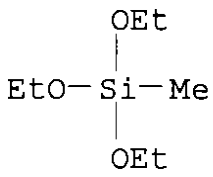
RN 780-69-8 HCA
CN Silane, triethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1067-25-0 HCA
CN Silane, trimethoxypropyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IC ICM A61L009-014
ICS C09D183-04; C08K003-22
CC 59-4 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 67
ST silane based coating **catalytic oxidative deodorizing**
IT **Catalyst** supports
(ceramic honeycomb; silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT Ceramics
Coating materials
Glass ceramics
Oxidation catalysts
(silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT Glass, uses
Metals, uses
Oxides (inorganic), uses
Silanes
Transition metals, uses
(silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT Organic compounds, processes
(silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT 7631-86-9, Levasil 300/30, reactions
(colloidal; silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT **1306-38-3**, Cerium oxide (CeO2), uses **1307-96-6**, Cobaltous oxide, uses **1308-06-1**, Cobalt oxide (Co3O4) **1313-13-9**, Manganese oxide (MnO2), uses **1313-99-1**, Nickel oxide (NiO), uses **1317-39-1**, Cuprous oxide, uses 7439-89-6, Iron, uses 7439-91-0, Lanthanum, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-22-4, Silver, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-45-1, Cerium, uses 7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-62-2, Vanadium, uses 7440-67-7, Zirconium, uses
(silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT 64-17-5, Ethanol, uses
(silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT 78-10-4, Tetraethoxysilane **78-62-6**, Dimethyldiethoxysilane **780-69-8**, Phenyltriethoxysilane **1067-25-0** **2031-67-6**, Methyltriethoxysilane 3251-23-8, Copper nitrate (Cu(NO3)2) 7647-01-0, Hydrogen chloride, reactions 10108-73-3, Cerium nitrate (Ce(NO3)3) 10377-66-9, Manganese nitrate (Mn(NO3)2)
(silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT 7440-44-0, Carbon, processes
(silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

IT 12597-69-2, Steel, uses
(wire mesh; silane-based coating mass with a **catalytic, oxidative** and **deodorizing** effect)

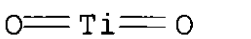
=> d l58 1-24 cbib abs hitstr hitind

L58 ANSWER 1 OF 24 HCA COPYRIGHT 2004 ACS on STN
140:294647 Mechanisms and Resolution of Photocatalytic Lithography.
Kubo, Wakana; Tatsuma, Tetsu; Fujishima, Akira; Kobayashi, Hironori (Institute of Industrial Science, University of Tokyo, Tokyo, 153-8505, Japan). Journal of Physical Chemistry B, 108(9), 3005-3009 (English) 2004. CODEN: JPCBFK. ISSN: 1520-6106. Publisher: American Chemical Society.

AB Remote **oxidn.** via the gas phase by the TiO2 photocatalyst was exploited for a novel technique for solid surface patterning, photocatalytic lithog. A TiO2-**coated** photomask was placed on an org. or inorg. substrate to be patterned with a small gap (12.5-100 μm), and irradiated with UV light. Heptadecafluorodecyltrimethoxysilane-, octadecyltriethoxysilane-, and methyltriethoxysilane-**coated** glass plates, a silicon plate, and a copper plate could be patterned in ≥10 min with resoln. of 10 μm or better. Such resoln. could be obtained even when the intervening gap between the TiO2 **film** and the substrate was 100 μm. This may be explained in terms of a double excitation scheme, in which not only TiO2 but also a chem. species diffusing from the TiO2 surface or the substrate to be **oxidized** is excited by the incident light.

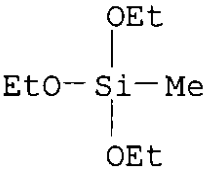
IT **13463-67-7**, Titania, processes
(solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



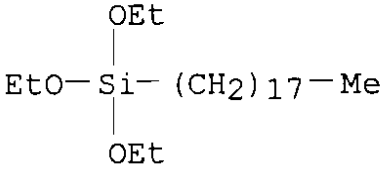
IT **2031-67-6**, Methyltriethoxysilane **7399-00-0**, Octadecyltriethoxysilane
(solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



RN 7399-00-0 HCA

CN Silane, triethoxyoctadecyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST titania photocatalyst remote **oxidn** photocatalytic lithog; surface photooxidn titania **coated** photomask photolithog patterning

IT Photolithography
(photocatalytic; solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

IT **Catalysis**
(photochem.; solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

IT **Oxidation catalysts**
(photooxidn.; solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

IT Photolysis
(possible mechanism involving photolysis of diffusing species in solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

IT Diffusion
Oxidation, photochemical
Photomasks (lithographic masks)
(solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

IT 7722-84-1, Hydrogen peroxide, miscellaneous
(possible mechanism involving photolysis of diffusing species in solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

IT 7440-47-3, Chromium, processes **13463-67-7**, Titania, processes
(solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

IT **2031-67-6**, Methyltriethoxysilane **7399-00-0**, Octadecyltriethoxysilane 7440-21-3, Silicon, processes 7440-50-8, Copper, processes 83048-65-1
(solid surface patterning by photocatalytic lithog. using TiO2-**coated** photomask)

L58 ANSWER 2 OF 24 HCA COPYRIGHT 2004 ACS on STN
140:115736 Manufacture of TiO2-SiO2 photocatalysts by sol-gel hydrolysis

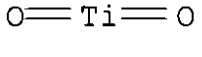
controlled by esterification rate of acetic acid and alcohols.
Chiu, Lien-Hua; Chen, Wen-Tung; Guu, Jan-An; Wu, Jeffery Chi-Sheng; Tseng, I-Hsiang; Chen, Chih-Hsien (Taiwan). U.S. Pat. Appl. Publ. US 2004016368 A1 20040129, 7 pp. (English). CODEN: USXXCO.
APPLICATION: US 2002-206180 20020729.

AB Photocatalysts including titania and silica components are manufd. for antifouling, sterilization, **deodorization** properties and can be applied to manufg. raw material for textile fibers and **coating** textile products. The titania component is synthesized by sol-gel hydrolysis of alkoxide precursor using slow-released water generated by the esterification of acetic acid and an alc. to conduct the hydrolysis condensation. The silica component is prepd. by sol-gel process by addn. of alkylaryl silane **oxidized** compds. (such as TEOS or methyltriethoxysilane).

IT **13463-67-7**, Titanium dioxide, uses
(in photocatalyst; manuf. of TiO2-SiO2 photocatalysts by sol-gel hydrolysis controlled by esterification rate of acetic acid and alcs.)

RN 13463-67-7 HCA

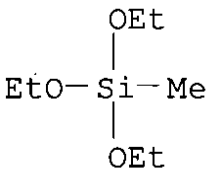
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **2031-67-6**, Methyltriethoxysilane
(precursors; manuf. of TiO2-SiO2 photocatalysts by sol-gel hydrolysis controlled by esterification rate of acetic acid and alcs.)

RN 2031-67-6 HCA

CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IC ICM C04B002-00
ICS C04B014-04

NCL 106436000; 106482000; 428404000

CC 57-2 (Ceramics)
Section cross-reference(s): 40

IT **Catalysts**
(photochem.; manuf. of TiO2-SiO2 photocatalysts by sol-gel hydrolysis controlled by esterification rate of acetic acid and alcs.)

IT 7631-86-9, Silicon dioxide, uses **13463-67-7**, Titanium

dioxide, uses
(in photocatalyst; manuf. of TiO2-SiO2 photocatalysts by sol-gel hydrolysis controlled by esterification rate of acetic acid and alcs.)

IT 78-10-4, Tetraethoxysilane **2031-67-6**, Methyltriethoxysilane
(precursors; manuf. of TiO2-SiO2 photocatalysts by sol-gel hydrolysis controlled by esterification rate of acetic acid and alcs.)

L58 ANSWER 3 OF 24 HCA COPYRIGHT 2004 ACS on STN
140:101869 Surface diffusion behavior of photogenerated active species or holes on TiO2 photocatalysts. Kawahara, Keisuke; Ohko, Yoshihisa; Tatsuma, Tetsu; Fujishima, Akira (Department of Applied Chemistry, Graduate School of Engineering, The University of Tokyo, 7-3-1, Hongo, Bunkyo-ku, Tokyo, 113-8656, Japan). Physical Chemistry Chemical Physics, 5(21), 4764-4766 (English) 2003. CODEN: PPCPFQ. ISSN: 1463-9076. Publisher: Royal Society of Chemistry.

AB A TiO2 photocatalyst modified with octadecyltriethoxysilane (ODS) was irradiated with UV light through a photomask, and the two-dimensional degrdn. behavior of ODS was monitored by means of Fourier transform IR (FTIR) microscopy. Decompn. of ODS in the dark region as well as that in the illuminated region was obsd., indicating that •OH radicals or holes diffused on the TiO2 surface at least 75 μm. The decompn. in the dark region was accelerated after the ODS in the illuminated region was almost decompd. Stray light due to diffraction, reflection and scattering was not predominantly responsible for the decompn. in the dark region.

IT **13463-67-7**, Titania, processes
(anatase-type; diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalysts)

RN 13463-67-7 HCA

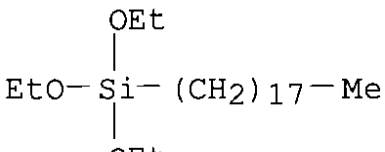
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O═Ti═O

IT **7399-00-0**, Octadecyltriethoxysilane
(diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalyst modified with octadecyltriethoxysilane)

RN 7399-00-0 HCA

CN Silane, triethoxyoctadecyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 59, 60, 67

IT IR reflectance spectra
(diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalyst **film** modified with octadecyltriethoxysilane)

IT Photolysis
Photolysis **catalysts**
(diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalyst modified with octadecyltriethoxysilane)

IT **Catalysis**
Catalysts
(photochem.; diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalysts)

IT **Oxidation catalysts**
(photooxidn.; diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalyst **film** modified with octadecyltriethoxysilane)

IT **13463-67-7**, Titania, processes
(anatase-type; diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalysts)

IT 3352-57-6, Hydroxyl, reactions **7399-00-0**, Octadecyltriethoxysilane
(diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalyst modified with octadecyltriethoxysilane)

IT 7440-21-3, Silicon, uses 7631-86-9, Silica, uses
(substrate; diffusion behavior of photogenerated active oxygen species and holes on surface of TiO2 photocatalyst **film** modified with octadecyltriethoxysilane)

L58 ANSWER 4 OF 24 HCA COPYRIGHT 2004 ACS on STN
138:390559 Water-repellent cosmetics with good emulsion stability containing triglycerin-modified silicones and salts. Nakanishi, Tetsuo; Tachibana, Kiyomi (Shin-Etsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003146832 A2 20030521, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-349695 20011115.

AB The cosmetics contain (A) triglycerin-modified silicones

R1aR2bSiO(4-a-b)/2 [R1 = C1-30 alkyl, aryl, aralkyl, amino-substituted alkyl, carboxyl-substituted alkyl, CdH2dO(C2H4O)e(C3H6O)fR3; R2 = QOCH[CH2OCH2CH(OH)CH2OH]2; Q = C3-20 hydrocarbylene which may contain ether linkage and ester linkage; R3 = C4-30 hydrocarbyl, R4CO; R4 = C1-30 hydrocarbyl; a = 1.0-2.5; b = 0.001-1.5; d = 0-15; e, f = 0-50] as emulsifiers and (B) salts. A skin cleanser contg. polyoxyethylene sorbitan monolaurate 30, NaCl 1, H2O 49, and an organopolysiloxane having av. compositional formula (Me3SiO1/2)2(Me2SiO)10(MeRSiO)5 [R = C3H6OCH[CH2OCH2CH(OH)CH2OH]2] (prepd. from methylhydrogenpolysiloxane and an allyl ether) 20 wt.% showed transparent appearance, good cleansing effect, and skin-moisturizing effect.

IT **1309-37-1**, Red iron oxide, biological studies **1314-13-2**, Zinc oxide, biological studies **13463-67-7**, Titania, biological studies **56275-01-5**, Silicic acid trimethylsilyl ester
(water-repellent cosmetics with good emulsion stability contg. triglycerin-modified silicone emulsifiers and salts)

RN 1309-37-1 HCA
CN Iron oxide (Fe2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

O═Zn

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O═Ti═O

RN 56275-01-5 HCA
CN Silicic acid, trimethylsilyl ester (9CI) (CA INDEX NAME)

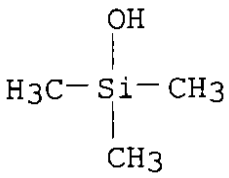
CM 1

CRN 1343-98-2
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 1066-40-6
CMF C3 H10 O Si



IC ICM A61K007-00
ICS A61K007-02; A61K007-027; A61K007-031; A61K007-032; A61K007-06; A61K007-075; A61K007-32; A61K007-42; A61K007-48; A61K007-50

CC 62-4 (Essential Oils and Cosmetics)
Section cross-reference(s): 37

IT Antiperspirants
Deodorants (personal)
Emulsifying agents
Human
Sunscreens
Suntanning agents
Surfactants
(water-repellent cosmetics with good emulsion stability contg. triglycerin-modified silicone emulsifiers and salts)

IT 50-70-4, Sorbitol, biological studies 56-81-5, Glycerin, biological studies 57-10-3, Palmitic acid, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 68-04-2, Sodium citrate 72-17-3, Sodium lactate 102-71-6D, Triethanolamine, salts 106-14-9, 12-Hydroxystearic acid 107-64-2, Dioctadecyldimethylammonium chloride 107-88-0, 1,3-Butylene glycol 110-27-0, Isopropyl myristate 111-01-3, Squalane 111-02-4, Squalene 112-92-5, Stearyl alcohol 115-69-5, 2-Amino-2-methyl-1,3-propanediol 142-47-2, Sodium glutamate 541-02-6, Decamethylcyclopentasiloxane 556-67-2, Octamethylcyclotetrasiloxane 557-05-1, Zinc stearate 822-16-2, Sodium stearate **1309-37-1**, Red iron oxide, biological studies **1314-13-2**, Zinc oxide, biological studies 1318-93-0D, Montmorillonite, dioctadecyldimethylammonium derivs. 1327-43-1, Aluminum magnesium silicate 1338-43-8, Sorbitan monooleate 1643-20-5, Unisafe A-LM 4418-26-2, Sodium dehydroacetate 7047-84-9, Aluminum monostearate 7299-99-2, Pentaerythritol tetra-2-ethylhexanoate 7360-38-5, Glyceryl tri-2-ethylhexanoate 7446-70-0, Aluminum chloride, biological studies 7487-88-9, Magnesium sulfate, biological studies 7647-14-5, Sodium chloride, biological studies 7757-82-6, Sodium sulfate, biological studies 8007-43-0, Sorbitan sesquioleate 9000-07-1, Carrageenan 9002-92-0, Pegnol L 6 9004-53-9D, Dextrin, fatty acid esters 9004-98-2, Emalex 510 9005-64-5, Polyoxyethylene sorbitan monolaurate 9005-65-6, Polyoxyethylene sorbitan monooleate 9016-00-6, Dimethylsilanediol homopolymer, sru

9067-32-7, Sodium hyaluronate 9082-07-9, Sodium chondroitin sulfate 12173-47-6D, Hectorite, dimethyldistearylammonium derivs. **13463-67-7**, Titania, biological studies 14357-21-2D, Dimethyldistearylammonium, hectorite derivs. 14357-21-2D, Dioctadecyldimethylammonium, montmorillonite derivs. 25168-73-4, Sucrose monostearate 25265-71-8, Dipropylene glycol 25322-68-3, Polyethylene glycol 25322-68-3D, Polyethylene glycol, hydrogenated castor oil derivs. 25637-84-7, Glyceryl dioleate 26942-95-0, Glyceryl triisostearate 27215-38-9, Glycerol monolaurate 31566-31-1, Glyceryl monostearate 36653-82-4, Cetanol 51274-00-1, Yellow iron oxide 52489-08-4, Sodium sorbitol sulfate **56275-01-5**, Silicic acid trimethylsilyl ester 60842-32-2, Aerosil R 972 68795-69-7, Propylene glycol monodecanoate 69364-63-2, Polyoxyethylene isocetyl ether 72585-97-8, Cetyl isooctanoate 83708-67-2, Glyceryl triisooctanoate 108910-78-7, Ascorbic acid phosphate magnesium salt 134910-86-4, Aluminum zirconium tetrachlorohydrex glycine complex 183387-52-2, Rheopearl TT 314020-17-2, KSG 15 314726-51-7, KSP 100 389609-18-1, SPD-T 1S 389614-24-8, SPD-Z 1S
(water-repellent cosmetics with good emulsion stability contg. triglycerin-modified silicone emulsifiers and salts)

L58 ANSWER 5 OF 24 HCA COPYRIGHT 2004 ACS on STN
138:63751 Patterning of solid surfaces by photocatalytic lithography based on the remote **oxidation** effect of TiO2. Tatsuma, Tetsu; Kubo, Wakana; Fujishima, Akira (Institute of Industrial Science, University of Tokyo, Meguro, Tokyo, 153-8505, Japan). Langmuir, 18(25), 9632-9634 (English) 2002. CODEN: LANGD5. ISSN: 0743-7463. Publisher: American Chemical Society.

AB A novel technique for solid surface patterning is developed on the basis of the remote **oxidn.** effect of TiO2 photocatalysts. A TiO2-**coated** quartz plate was faced to a solid substrate, i.e., a glass plate modified with an ultrathin org. **layer** or silicon, copper, or silver plate, sepd. by a small gap, and the TiO2 was irradiated with UV light in air through a photomask. As a result, two-dimensional images corresponding to the photomask are obtained. Those images are based on the contrasts of nonoxidized to **oxidized** surfaces.

IT **13463-67-7**, Titanium dioxide, processes
(STS-21; lithog. patterning based on remote photooxidn. effect of TiO2)

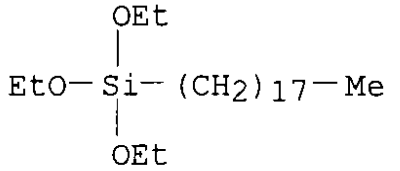
RN 13463-67-7 HCA

CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

IT **7399-00-0**, Octadecyltriethoxysilane

(lithog. patterning based on remote photooxidn. effect of TiO2)
RN 7399-00-0 HCA
CN Silane, triethoxyoctadecyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



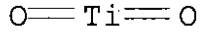
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photocatalytic lithog remote **oxidn** effect titania photocatalyst; photooxidn titania photocatalyst photocatalytic lithog
IT **Oxidation**, photochemical
(lithog. patterning based on remote photooxidn. effect of TiO2)
IT **Oxidation catalysts**
(photooxidn.; lithog. patterning based on remote photooxidn. effect of TiO2)
IT **13463-67-7**, Titanium dioxide, processes
(STS-21; lithog. patterning based on remote photooxidn. effect of TiO2)
IT 7440-21-3D, Silicon, **oxidized** 7440-22-4D, Silver, **oxidized** 7440-50-8D, Copper, **oxidized**
(lithog. patterning based on remote photooxidn. effect of TiO2)
IT **7399-00-0**, Octadecyltriethoxysilane 7440-21-3, Silicon, reactions 7440-22-4, Silver, reactions 7440-50-8, Copper, reactions
(lithog. patterning based on remote photooxidn. effect of TiO2)

L58 ANSWER 6 OF 24 HCA COPYRIGHT 2004 ACS on STN
136:406603 A transfer resistant anhydrous cosmetic composition. Morrison, Sam B. (L'Oreal S.A., Fr.). PCT Int. Appl. WO 2002041854 A2 20020530, 19 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US43212 20011120. PRIORITY: US 2000-717204 20001122.
AB The invention also provides for a cosmetic powder delivery system and a method of delivering a powder compn. to a keratinous substance. A compn. with transfer resistance and/or waterproof

properties comprising at least one linear dimethicone, and at least one block copolymer film former chosen from triblock copolymer film formers, multi-block copolymer film formers and radial block copolymer film formers. Thus, cream-based makeup compn. contained jojoba esters 8, polyethylene 2, Dow Corning-200 44.5, TiO2 9.2, PTFE 3.5, mica 1.9, lauroyllysine 0.1, aluminum starch octenyl succinate 2.0, isopropyltitanium triisostearate 0.2, iron oxides 2.5, methylparaben 0.1, cyclomethicone 9.6, trimethylsiloxysilicate 8.4, dimethiconol 0.5, Versagel M5960 2.0, preservatives 0.3, lauryl PCA 0.1, acrylate copolymer 0.9, and isobutane 0.1%.

IT **13463-67-7**, Titanium oxide, biological studies
56275-01-5, Silicic acid trimethylsilyl ester
(transfer resistant anhyd. cosmetic compn.)

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



RN 56275-01-5 HCA
CN Silicic acid, trimethylsilyl ester (9CI) (CA INDEX NAME)

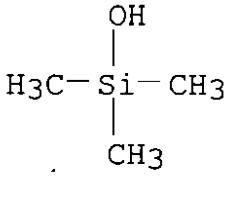
CM 1

CRN 1343-98-2
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 1066-40-6
CMF C3 H10 O Si



IC ICM A61K007-00
CC 62-4 (Essential Oils and Cosmetics)
Section cross-reference(s): 37
IT **Deodorants** (personal)
(sticks; transfer resistant anhyd. cosmetic compn.)
IT Cosmetics
Insect repellents

Odor and **Odorous** substances
Perfumes
Pigments, nonbiological
Silk
Sunscreens
(transfer **resistant** anhyd. cosmetic compn.)

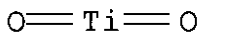
IT 74-85-1D, Ethylene, polymers with acrylates 79-10-7D, Acrylic acid, esters, polymers 2143-69-3D, Vinylidene, polymers 7631-86-9, Silica, biological studies 9002-84-0, PTFE 9002-88-4, Polyethylene 9005-25-8, Starch, biological studies 9006-65-9, Dimethicone 9011-14-7, PMMA 9016-00-6, Polydimethylsiloxane 9016-00-6D, Polydimethylsiloxane, trimethylsilyl-terminated 9087-61-0, Aluminum starch octenyl succinate **13463-67-7**, Titanium oxide, biological studies 14807-96-6, Talc, biological studies 31692-79-2, Dimethiconol 31900-57-9, Polydimethylsiloxane 31900-57-9D, Polydimethylsiloxane, trimethylsilyl-terminated 42557-10-8, Dow Corning 200 **56275-01-5**, Silicic acid trimethylsilyl ester 104133-11-1, Methylsilanetriol homopolymer 153315-80-1, Methylsilanetriol homopolymer, ladder SRU
(transfer resistant anhyd. cosmetic compn.)

L58 ANSWER 7 OF 24 HCA COPYRIGHT 2004 ACS on STN
136:24951 Sterol-modified silicone compound and cosmetic preparation. Sakuta, Koji (Shin-Etsu Chemical Co., Ltd., Japan). PCT Int. Appl. WO 2001092376 A1 20011206, 65 pp. DESIGNATED STATES: W: KR, US; RW: DE, FR, GB. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2001-JP4422 20010525. PRIORITY: JP 2000-164337 20000601.

AB A sterol-modified silicone compd. which has a m.p. of ≤ 40°, is hydrophilic, has excellent emulsifiability, and is represented by the general formula R1aR2bSiO(4-a-b)/2, wherein R1s are the same or different and each is C1-10 monovalent alkyl, aryl, aralkyl, or fluoroalkyl contg. no aliph. unsatd. bonds; a = 1-2.5; b = 0.001-1; a + b = 1.5-2.6; R2 is an org. group represented by the general formula -(CpH2p)O(CqH2qO)r-X (wherein X is the monovalent residue formed by removing the hydroxyl group from a sterol); p = 2-6; q = 2-4; and r = 3-200. A cosmetic compn. excellent in stability and heat-reserving property which contains the silicone compd. is also disclosed. A silicone compd. AO(C3H6O)3(C2H4O)7C3H6(Me)(Me)SiO[(Me)(Me)SiO]60 (Me)(Me)SiC3H6O(C2H4O)7(C3H6O)3A (A = cholesterol residue) was prepd., and combined at 2 % with 1,3-butylene glycol 8, lecithin 0.1, and water q.s. to 100 % to obtain a cosmetic lotion.

IT **1309-37-1**, Red iron oxide, biological studies **13463-67-7**, Titanium oxide, biological studies **56275-01-5**
(cosmetic compns. contg. sterol-modified silicone compds. and other ingredients)

RN 1309-37-1 HCA
CN Iron oxide (Fe2O3) (8CI, 9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



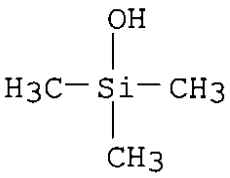
RN 56275-01-5 HCA
CN Silicic acid, trimethylsilyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 1343-98-2
CMF Unspecified
CCI MAN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 1066-40-6
CMF C3 H10 O Si



IC ICM C08G077-46
ICS C08G077-14; C08L083-12; A61K007-00; A61K007-02; A61K007-06; A61K007-32; A61K007-40; A61K007-48
CC 62-4 (Essential Oils and Cosmetics)
Section cross-reference(s): 37
IT Antiperspirants
Deodorants
Pigments, nonbiological
Sunscreens
Surfactants
(cosmetic compns. contg. sterol-modified silicone compds. and other ingredients)
IT 56-81-5, Glycerin, biological studies 57-10-3, Palmitic acid, biological studies 57-55-6, Propylene glycol, biological studies 107-88-0, 1,3-Butylene glycol 110-27-0, Isopropyl myristate 111-02-4, Squalene 538-23-8, Glyceryl trioctanoate 593-31-7, α-Monooleyl glyceryl ether **1309-37-1**, Red iron

oxide, biological studies 1319-45-5, Gunjo 5281-04-9, Japan red 202 5466-77-3, Octyl-p-methoxycinnamate 8007-43-0, Sorbitan sesquioleate 9002-88-4 9002-92-0, Polyethylene glycol lauryl ether 9005-12-3, Methyl phenyl polysiloxane 9005-65-6, Polyoxyethylene sorbitan monooleate 9005-67-8, Polyoxyethylene sorbitan monostearate 9016-00-6, Dimethylpolysiloxane 11118-57-3, Chromium oxide 12174-53-7, Sericite 12227-89-3, Black iron oxide **13463-67-7**, Titanium oxide, biological studies 14807-96-6, Talc, biological studies 25265-71-8, Dipropylene glycol 25322-68-3, Polyethylene glycol 25637-84-7, Glyceryl dioleate 31335-74-7, Neopentyl glycol dioctanoate 32128-65-7, Polyoxyethylene octyl dodecyl ether 42131-27-1, Isotridecylisononanoate 51274-00-1, Yellow iron oxide 54392-26-6, Sorbitan monoisostearate **56275-01-5** 60842-32-2, Aerosil R972 61332-02-3, Glyceryl isostearate 63793-60-2, Polypropylene glycol myristyl ether 70356-09-1, 4-tert-Butyl-4'-methoxy-dibenzoylmethane 74784-46-6 78145-84-3, α-Monoisostearyl glyceryl ether 81752-33-2, Diglyceryl monoisostearate 83138-62-9, Polyglyceryl isostearate 83708-67-2, Glyceryl triisooctanoate 112627-55-1, Aerosil RY200 126449-40-9 148093-12-3, Sepigel 305 187887-27-0, Polyglyceryl triisostearate 319427-75-3, KF-6026
(cosmetic compns. contg. sterol-modified silicone compds. and other ingredients)

L58 ANSWER 8 OF 24 HCA COPYRIGHT 2004 ACS on STN
135:376535 Composition for make-up or skin-care in a powdery form containing a particular binder. Hadasch, Anke; Lemann, Patricia; Simonnet, Jean-tierry (L'oreal, Fr.). Eur. Pat. Appl. EP 1155676 A2 20011121, 21 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (French). CODEN: EPXXDW. APPLICATION: EP 2001-401249 20010515. PRIORITY: FR 2000-6448 20000519.

AB A make-up compn. contains a powdery phase and a binding phase which a continuous aq. phase. A binding phase contained iso-Pr myristate 1.64, castor oil 2.46, vaseline oil 12.36, liq. lanolin 1.26, water 70.95, imidazolinyl urea 0.3, glycerin 5, Acylglutamate HS-11 0.03, phytantriol 2.97, vaseline 2.28, chlorphenesine 0.25, and polyoxyethylene sorbitan monopalmitate 0.5%. A cosmetic make-up contained talc 77.06, iron oxide 2.74, Nylon powder 10, titanium oxide 1, preservative 0.2, and above binding phase 9%.

IT **1314-13-2**, Zinc oxide, biological studies **1314-23-4**, Zirconium oxide, biological studies **13463-67-7**, Titanium oxide, biological studies **56275-01-5**
(compn. for make-up or skin-care in powdery form contg. particular binder)

RN 1314-13-2 HCA

CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

O=Zn

RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)

O=Zr=O

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

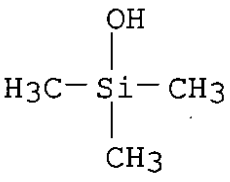
RN 56275-01-5 HCA
CN Silicic acid, trimethylsilyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 1343-98-2
CMF Unspecified
CCI MAN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 1066-40-6
CMF C3 H10 O Si



IC ICM A61K007-035
CC 62-4 (Essential Oils and Cosmetics)
IT Aloe barbadensis
Alopecia
Anthraquinone dyes
Anti-inflammatory agents
Antibacterial agents
Azo dyes
Caramel (color)
Ceramics

Deodorants
Dyes
Fungicides
Gelation agents
Humectants
Insecticides
Microcapsules
Microspheres
Pearl
Pigments, nonbiological
Reducing agents
Sequestering agents
Stabilizing agents
Sunscreens
Suntanning agents
Surfactants
(compn. for make-up or skin-care in powdery form contg. particular binder)

IT 50-70-4, Sorbitol, biological studies 50-81-7, Vitamin c, biological studies 52-90-4, Cysteine, biological studies 55-56-1, Chlorhexidine 57-10-3, Palmitic acid, biological studies 57-11-4, Stearic acid, biological studies 57-88-5, Cholesterol, biological studies 58-08-2, Caffein, biological studies 58-55-9, Theophylline, biological studies 60-18-4D, Tyrosine, derivs. 60-23-1, Cysteamine 60-33-3, Linoleic acid, biological studies 68-11-1, Thioglycolic acid, biological studies 68-26-8, Retinol 69-72-7, Salicylic acid, biological studies 69-72-7D, Salicylic acid, derivs. 70-30-4, Hexachlorophene 79-14-1, Glycolic acid, biological studies 79-81-2, Retinol palmitate 81-13-0, Panthenol 91-53-2, Ethoxyquine 93-60-7, Methyl nicotinate 96-26-4, Dihydroxyacetone 107-46-0, Hexamethyldisiloxane 110-27-0, Isopropyl myristate 111-01-3, Squalane 112-80-1, Oleic acid, biological studies 112-85-6, Behenic acid 112-92-5, Stearyl alcohol 118-00-3, Guanosine, biological studies 120-72-9D, Indole, derivs. 123-95-5, Butylstearate 124-07-2D, Caprylic acid, glycerides 125-33-7, Hexamidine 127-47-9, Retinol acetate 137-66-6, Ascorbyl palmitate 141-94-6, Hexetidine 142-47-2D, Monosodium glutamate, acyl derivs. 142-91-6, Isopropyl palmitate 143-28-2, Oleyl alcohol 302-79-4, Retinoic acid 302-79-4D, Retinoic acid, derivs. 334-48-5D, Capric acid, glycerides 463-40-1, Linolenic acid 464-92-6, Asiatic acid 471-34-1, Calcium carbonate, biological studies 497-76-7, Arbutin 501-30-4, Kojic acid 515-69-5, α-Bisabolol 540-97-6 541-02-6 544-63-8, Myristic acid, biological studies 546-93-0, Magnesium carbonate 556-67-2 616-91-1, N-Acetyl cysteine 1190-73-4, N-Acetyl cysteamine 1256-86-6, Cholesteryl sulfate 1306-06-5, Hydroxyapatite **1314-13-2**, Zinc oxide, biological studies **1314-23-4**, Zirconium oxide, biological

studies 1332-37-2, Iron oxide, biological studies 1406-18-4, Vitamin e 2197-63-9, Dicetylphosphate 2915-57-3 3380-34-5, Triclosan 4358-16-1, Cholesteryl phosphate 6640-03-5, Dimyristylphosphate 7069-42-3, Retinol propionate 7235-40-7, β-Carotene 7440-39-3D, Barium, salts, biological studies 7440-67-7D, Zirconium, salts, biological studies 7440-70-2D, Calcium, salts, biological studies 7631-86-9, Silica, biological studies 7787-59-9, Bismuth oxychloride 9001-92-7, Protease 9002-84-0, Polytetrafluoroethylene 9002-88-4, Polyethylene 9003-27-4, Polyisobutene 9003-53-6, Polystyrene 9004-61-9, Hyaluronic acid 9005-25-8, Starch, biological studies 9011-14-7, Polymethylmethacrylate 9016-00-6, Polydimethylsiloxane 9067-32-7, Sodium hyaluronate 10043-11-5, Boron nitride, biological studies 11042-64-1, γ-Orizanol 11103-57-4, Vitamin a 11118-57-3, Chromium oxide 11129-18-3, Cerium oxide 12240-15-2, Ferric Blue **13463-67-7**, Titanium oxide, biological studies 14807-96-6, Talc, biological studies 16690-92-9D, Disodium glutamate, acyl derivs. 17181-54-3, β-Glycerophosphate 19660-77-6, Chlorophyllin 20545-92-0, Pur-cellin 22766-83-2, 2-Octyldodecyl myristate 23597-82-2, Hexyl nicotinate 24937-14-2, Poly(β-alanine) 25513-34-2, Poly(β-alanine) 26545-51-7, Diethyl toluamide 26942-95-0, Glycerin triisostearate 29468-20-0, Pyridinethione 29806-73-3, 2-Ethyl-hexyl palmitate 30399-84-9, Isostearic acid 31807-55-3, Isododecane 31900-57-9, Polydimethylsiloxane 34316-64-8, Hexyl laurate 34362-27-1, 2-Hexyl decyl laurate 34513-50-3, Octyldodecanol 36653-82-4, Cetanol 37309-58-3, Polydecene 38304-91-5, Minoxidil 38517-23-6, Acylglutamate HS-11 42131-25-9, Isononyl isononanoate **56275-01-5** 57568-20-4, 2-Octyldodecyl lactate 57654-76-9 60554-19-0 60908-77-2, Isohexadecane 68890-66-4, Octopirox 70424-62-3 70942-90-4, Glyceol 74563-64-7, Phytantriol 78418-03-8, n-Dodecanoyl 5-salicylic acid 80208-78-2, Glycerol thioglycolate 81230-05-9, Diisostearyl malate 108910-78-7, Magnesium ascorbyl phosphate 120486-24-0, Diglycerin triisostearate 127278-53-9 134112-33-7, 2-Octyl decyl palmitate 145278-13-3 156218-15-4 197912-25-7 200260-57-7 374538-88-2D, derivs. 374690-63-8
(compn. for make-up or skin-care in powdery form contg. particular binder)

L58 ANSWER 9 OF 24 HCA COPYRIGHT 2004 ACS on STN
134:375216 Black filler for magnetic recording medium and magnetic recording medium using the same. Hayashi, Kazuyuki; Morii, Hiroko; Kamigaki, Mamoru; Ishitani, Seiji (Toda Kogyo Corporation, Japan). Eur. Pat. Appl. EP 1102245 A1 20010523, 126 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-310100 20001114. PRIORITY: JP 1999-324149 19991115; JP

1999-326190 19991116.

AB A magnetic recording medium comprises a nonmagnetic base film and a magnetic recording layer. The magnetic recording layer comprises a binder resin, magnetic particles and a black filler having an av. diam. of 0.08 to 1.0 μm. The magnetic recording layer comprises hematite particles as core particles, a coating formed on the surface of said hematite particles. The surface coating comprises at least one organosilicon compd. selected from organosilane compds. obtainable from alkoxysilane compds. and polysiloxanes or modified polysiloxanes. A carbon black coat which is provided on said coating layer in an amt. of from more than 30 to 60 parts by wt. based on 100 parts by wt. of said hematite particles.

IT **1317-60-8**, Hematite, processes
(black filler for magnetic recording medium and magnetic recording medium fabrication)

RN 1317-60-8 HCA

CN Hematite (Fe2O3) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Fe	2	7439-89-6

IT **12134-66-6**, Maghemite
(magnetic core particles; black filler for magnetic recording medium and magnetic recording medium fabrication)

RN 12134-66-6 HCA

CN Maghemite (Fe2O3) (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Fe	2	7439-89-6

IT **1309-38-2**, Magnetite, processes
(non-magnetic base film; black filler for magnetic recording medium and magnetic recording medium fabrication)

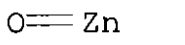
RN 1309-38-2 HCA

CN Magnetite (Fe3O4) (9CI) (CA INDEX NAME)

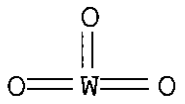
Component	Ratio	Component Registry Number
O	4	17778-80-2
Fe	3	7439-89-6

IT **1314-13-2**, Zinc oxide, processes **1314-35-8**, Tungsten oxide, processes **13463-67-7**, Titanium oxide, processes
(non-magnetic undercoat layers; black filler for magnetic recording medium and magnetic recording medium fabrication)

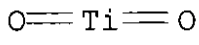
RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)



RN 1314-35-8 HCA
CN Tungsten oxide (WO3) (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

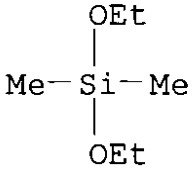


RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

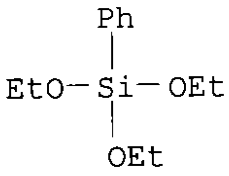


IT **78-62-6**, Dimethyldiethoxysilane **780-69-8** **1112-39-6**, Dimethyldimethoxysilane **1185-55-3**, Methyltrimethoxysilane **2031-67-6**, Methyltriethoxysilane **2553-19-7**, Diphenyldiethoxysilane **2996-92-1**, Phenyltrimethoxysilane **5575-48-4**, Decyltrimethoxysilane **6843-66-9**, Diphenyldimethoxysilane **18395-30-7**, Isobutyltrimethoxysilane
(surface coating; black filler for magnetic recording medium and magnetic recording medium fabrication)

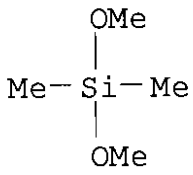
RN 78-62-6 HCA
CN Silane, diethoxydimethyl- (8CI, 9CI) (CA INDEX NAME)



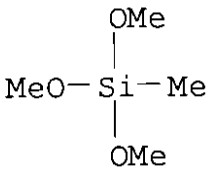
RN 780-69-8 HCA
CN Silane, triethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



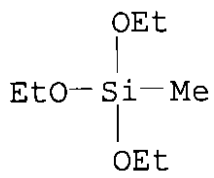
RN 1112-39-6 HCA
CN Silane, dimethoxydimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



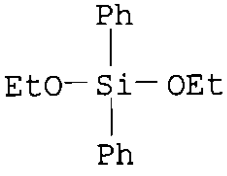
RN 1185-55-3 HCA
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



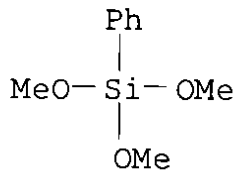
RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



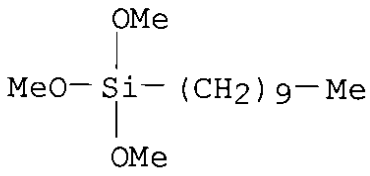
RN 2553-19-7 HCA
CN Silane, diethoxydiphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



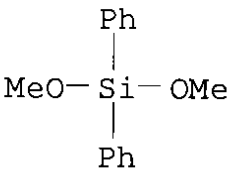
RN 2996-92-1 HCA
CN Silane, trimethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



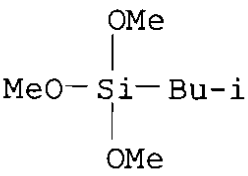
RN 5575-48-4 HCA
CN Silane, decyltrimethoxy- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 6843-66-9 HCA
CN Silane, dimethoxydiphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 18395-30-7 HCA
CN Silane, trimethoxy(2-methylpropyl)- (9CI) (CA INDEX NAME)



IC ICM G11B005-708
ICS C09C003-12; C09C001-24
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 38, 42, 46, 78
IT Antistatic agents
Coating process
Fillers
Lubricants

Magnetic memory devices
Magnetic particles
(black filler for magnetic recording medium and magnetic recording medium fabrication)

IT Carbon black, processes
(**oxidized**, MA11; black filler for magnetic recording medium and magnetic recording medium fabrication)

IT **1317-60-8**, Hematite, processes 1344-28-1, α-Alumina, processes 12173-91-0, Magnetoplumbite 129406-57-1, Geon MR 110
(black filler for magnetic recording medium and magnetic recording medium fabrication)

IT **12134-66-6**, Maghemite
(magnetic core particles; black filler for magnetic recording medium and magnetic recording medium fabrication)

IT **1309-38-2**, Magnetite, processes 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9020-73-9, Polyethylene naphthalate 12597-68-1, Stainless steel, processes 25038-59-9, Polyethylene terephthalate, processes
(non-magnetic base film; black filler for magnetic recording medium and magnetic recording medium fabrication)

IT 409-21-2, Silicon carbide (SiC), processes 471-34-1, Calcium carbonate, processes 513-77-9, Barium carbonate 546-93-0, Magnesium carbonate **1314-13-2**, Zinc oxide, processes **1314-35-8**, Tungsten oxide, processes 1317-33-5, Molybdenum disulfide, processes 1332-29-2, Tin oxide 1633-05-2, Strontium carbonate 7631-86-9, Silicon dioxide, processes 7727-43-7, Barium sulfate 7778-18-9, Calcium sulfate 10043-11-5, Boron nitride, processes 11115-92-7, Iron oxide hydroxide 11118-57-3, Chromium oxide 11129-18-3, Cerium oxide 12033-89-5, Silicon nitride, processes 12047-27-7, Barium titanate, processes 12070-08-5, Titanium carbide **13463-67-7**, Titanium oxide, processes
(non-magnetic undercoat layers; black filler for magnetic recording medium and magnetic recording medium fabrication)

IT **78-62-6**, Dimethyldiethoxysilane **780-69-8** **1112-39-6**, Dimethyldimethoxysilane **1185-55-3**, Methyltrimethoxysilane **2031-67-6**, Methyltriethoxysilane **2553-19-7**, Diphenyldiethoxysilane **2996-92-1**, Phenyltrimethoxysilane **5575-48-4**, Decyltrimethoxysilane **6843-66-9**, Diphenyldimethoxysilane 9016-00-6, Dimethylpolysiloxane **18395-30-7**, Isobutyltrimethoxysilane
(surface coating; black filler for magnetic recording medium and magnetic recording medium fabrication)

L58 ANSWER 10 OF 24 HCA COPYRIGHT 2004 ACS on STN
134:212507 Cosmetics containing branched volatile organopolysiloxanes. Kuroda, Akihiro; Sakuta, Koji; Usui, Hitoshi (Kanebo, Ltd., Japan; Shin-Etsu Chemical Co., Ltd.). PCT Int. Appl. WO 2001015658 A1

20010308, 82 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2000-JP5838 20000829. PRIORITY: JP 1999-242948 19990830; JP 1999-242949 19990830; JP 1999-266824 19990921.

AB Cosmetics characterized by contg. an organopolysiloxane (Me3SiO)3SiMe (I). The cosmetics exhibit excellent volatility and feels and are excellent in stability. A compd. I was prepd. by hydrolysis of a mixt. of trimethylchlorosilane and Me trichlorosilane, and combined at 25 % with silicone-treated TiO2 particles 3, polyoxyethylene-methylpolysiloxane copolymer (KF6017) 1, silicone-treated zinc oxide particle 6, perfluoroalkylphosphate-treated mica 0.5, crosslinked organopolysiloxane spherical powders 4, dimethylpolysiloxane (KF96A-6) 2, fluorinated dimethiconol 1, trimethylsiloxysilicate soln. 6, octyl-p-methoxysilicate 3, p-fluoropolyether 0.5, ethanol 10, ale ext. 1, hamamelis ext. 1, hibiscus ext. 0.5, and water q.s. to 100 % to obtain a sunscreen makeup base.

IT **56275-01-5D**, derivs. **257905-55-8**, KF7312J
(cosmetics contg. branched volatile organopolysiloxanes and other polysiloxanes)

RN 56275-01-5 HCA

CN Silicic acid, trimethylsilyl ester (9CI) (CA INDEX NAME)

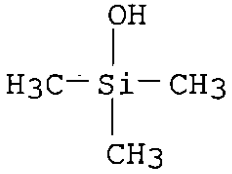
CM 1

CRN 1343-98-2
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

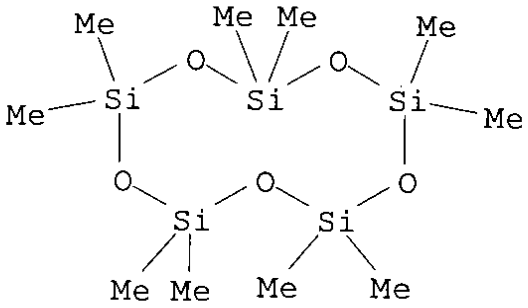
CRN 1066-40-6
CMF C3 H10 O Si



RN 257905-55-8 HCA
CN Silicic acid, trimethylsilyl ester, mixt. with decamethylcyclopentasiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 541-02-6
CMF C10 H30 O5 Si5



CM 2

CRN 56275-01-5
CMF C3 H10 O Si . x Unspecified

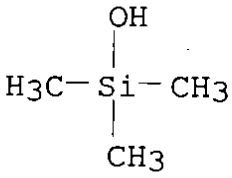
CM 3

CRN 1343-98-2
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 1066-40-6
CMF C3 H10 O Si

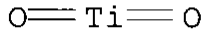


IT **1314-13-2**, Zinc oxide, biological studies **13463-67-7**, Titanium oxide, biological studies

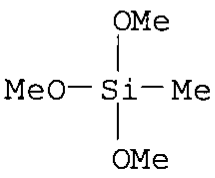
(cosmetics contg. branched volatile organopolysiloxanes and other polysiloxanes and sunscreen agents)

RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **1185-55-3**, Methyltrimethoxysilane
(prepn. of branched volatile organopolysiloxanes for cosmetics)
RN 1185-55-3 HCA
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM A61K007-00
CC 62-4 (Essential Oils and Cosmetics)
IT Antiperspirants
Deodorants
Sunscreens
Suntanning agents
(cosmetics contg. branched volatile organopolysiloxanes and other polysiloxanes)
IT 541-02-6, KF 995 9005-12-3, Methylphenylpolysiloxane
31692-79-2D, Dimethiconol, fluorinated **56275-01-5D**,
derivs. **257905-55-8**, KF7312J 314020-17-2, KSG15
319427-75-3, KF 6026
(cosmetics contg. branched volatile organopolysiloxanes and other polysiloxanes)
IT 119-61-9D, Benzophenone, derivs. **1314-13-2**, Zinc oxide,
biological studies 5466-77-3, 2-Ethylhexyl-p-Methoxycinnamate
13463-67-7, Titanium oxide, biological studies 70356-09-1,
Butyl methoxydibenzoylmethane
(cosmetics contg. branched volatile organopolysiloxanes and other polysiloxanes and sunscreen agents)
IT 75-77-4, Trimethylchlorosilane, reactions 75-79-6,
Methyltrichlorosilane 107-46-0, Hexamethyldisiloxane

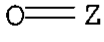
1185-55-3, Methyltrimethoxysilane
(prepn. of branched volatile organopolysiloxanes for cosmetics)

L58 ANSWER 11 OF 24 HCA COPYRIGHT 2004 ACS on STN
134:123613 Production of lithographic printing plate, lithographic original plate, and image formation. Hoshi, Satoshi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001022058 A2 20010126, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-190786 19990705.

AB A **layer**, having a hydrophobic surface and contg. an **oxidizable** and a reducible compd., formed on a support is imagewise exposed to actinic ray in the presence of a photocatalytic metal compd. to **covert** the surface of the exposed areas to hydrophilic by imagewise decompn. of the **oxidizable** compd. to form a hydrophilic and hydrophobic imagewise distribution to give the lithog. printing late. A lithog. original late from which a printing plate is obtained by the above process and an image forming process comprising the above process are also claimed. The lithog. printing plate can be obtained easily without development and shows high printing durability.

IT **1314-13-2**, Zinc oxide, uses **13463-67-7**, Titania, uses
(manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)

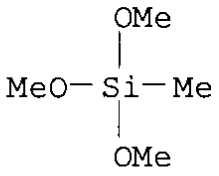
RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

IT **1185-55-3**, Methyltrimethoxysilane
(**oxidizable** compd.; manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)

RN 1185-55-3 HCA
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM G03F007-004
ICS G03F007-004; B41C001-10; B41N001-14; G03F007-00
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST lithog printing plate photocatalyst metal compd; **oxidizable** compd lithog plate; reducible compd lithog plate silver nitrate; hydrophilic hydrophobic surface lithog plate
IT Lithographic plates
(manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)
IT Polysiloxanes, uses
(**oxidizable** compd.; manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)
IT **Catalysts**
(photochem.; manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)
IT **1314-13-2**, Zinc oxide, uses **13463-67-7**, Titania, uses
(manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)
IT 146239-65-8, JSR AE 130
(manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)
IT 78-10-4, Tetraethoxysilane 107-22-2, Glyoxal **1185-55-3**, Methyltrimethoxysilane 9002-89-5, PVA 117 9003-01-4, Poly(acrylic acid) 14814-09-6 17626-93-6, Tetraethylene glycol diglycidyl ether
(**oxidizable** compd.; manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)
IT 7761-88-8, Silver nitrate, uses
(reducible compd.; manuf. of lithog. plate using **oxidizable** compd., reducible compd., and photocatalytic metal compd.)

L58 ANSWER 12 OF 24 HCA COPYRIGHT 2004 ACS on STN
133:327645 Toner for developing electrostatic image and developer using same. Iwamoto, Yasutaka; Watanabe, Kazuto; Yamashita, Masahide; Hasegawa, Kumi (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP

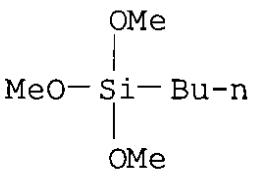
2000298374 A2 20001024, 12 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1999-106557 19990414.

AB In the title toner and developer used in an imaging method comprising developing latent images on a latent image carrier, transferring the resulting toner images from the carrier to a transfer material, cleaning the carrier after transfer to recover the toner, and supplying the toner recovered to development side to reuse it, the amt. of the residual monomers in the toner is ≤300 ppm. The toner shows stable charging properties and provides clear, high d. images in the above recycle system and the smell of the toner generated upon fixing is decreased.

IT **1067-57-8D**, Butyltrimethoxysilane, titania treated with
(electrophotog. toners with controlled residual monomer content to **suppress odor** upon fixing and developers using same)

RN 1067-57-8 HCA

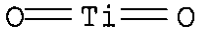
CN Silane, butyltrimethoxy- (7CI, 8CI, 9CI) (CA INDEX NAME)



IT **13463-67-7**, Titania, uses
(fluidizing agent; electrophotog. toners with controlled residual monomer content to **suppress odor** upon fixing and developers using same)

RN 13463-67-7 HCA

CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IC ICM G03G009-08
ICS G03G009-087

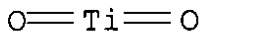
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Electrophotographic developers
Electrophotographic toners
(electrophotog. toners with controlled residual monomer content to **suppress odor** upon fixing and developers using same)

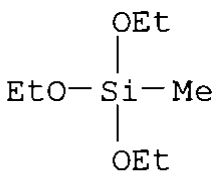
IT Acrylic polymers, uses
Polyesters, uses
(electrophotog. toners with controlled residual monomer content to **suppress odor** upon fixing and developers

using same)
IT Acrylic polymers, uses
(styrene-contg.; electrophotog. toners with controlled residual monomer content to **suppress odor** upon fixing and developers using same)
IT **1067-57-8D**, Butyltrimethoxysilane, titania treated with 7631-86-9, Silica, uses 25767-47-9, Butyl acrylate-styrene copolymer 26659-86-9, Bisphenol A-terephthalic acid copolymer 60842-32-2, Aerosil R 972 87945-57-1
(electrophotog. toners with controlled residual monomer content to **suppress odor** upon fixing and developers using same)
IT **13463-67-7**, Titania, uses
(fluidizing agent; electrophotog. toners with controlled residual monomer content to **suppress odor** upon fixing and developers using same)

L58 ANSWER 13 OF 24 HCA COPYRIGHT 2004 ACS on STN
133:254206 Manufacture of a hydroxyl group-containing aromatic compound by **catalytic oxidation** with nitrous oxide in the presence of a **catalytically** active inorganic membrane.
Duda, Mark; Hoerpel, Gerhard; Hying, Christian; Kuehnle, Adolf (Creavis Gesellschaft fuer Technologie und Innovation m.b.H., Germany). Ger. Offen. DE 19912643 A1 20000921, 14 pp. (German).
CODEN: GWXXBX. APPLICATION: DE 1999-19912643 19990320.
AB Benzene is **oxidized** to PhOH with higher conversion and selectivity by treatment with N2O in the presence of an inorg. membrane. Thus, a mixt. of 0.5 g Fe acetylacetonate and Si(OEt)4 8, MeSi(OEt)3 1.8, and EtOH 8 mL was treated with 2 mL 8N HCl to give a gel, which was dried and calcined. Sep. 80 g Ti(OPr-iso)4 was hydrolyzed with 20 g H2O and peptized with 120 g 25% HNO3 to give a soln., to which 40 g TiO2 was added to give a suspension (A). A stainless steel gauze with mesh size 90 μm was **coated** with suspension A and heated 10 s at 400° to give a noncatalytic membrane, which was **coated** with a suspension of the calcined gel to give a **catalytic** membrane. Passing benzene and N2O countercurrently through a tubular reactor contg. both membranes at 370° produced PhOH with 98% selectivity and 19% benzene conversion.
IT **13463-67-7**, Titanium dioxide, uses
(**catalyst** component; manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **2031-67-6**, Methyltriethoxysilane
(**catalyst** precursor; manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IC ICM C07C037-60
ICS C07C039-04; C07B041-02; B01J012-00; B01J035-00; B01J037-00
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
ST benzene **oxidn** nitrous oxide; **catalytic** membrane phenol manuf
IT Titanium silicalite
Zeolite ZSM-5
(**catalyst** component; manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
IT Membranes, nonbiological
(inorg.; manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
IT **Oxidation**
(manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
IT **13463-67-7**, Titanium dioxide, uses
(**catalyst** component; manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
IT 78-10-4, Tetraethoxysilane 546-68-9, Titanium tetraisopropoxide **2031-67-6**, Methyltriethoxysilane 3087-36-3, Tetraethyl orthotitanate 14024-18-1, Iron acetylacetonate
(**catalyst** precursor; manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
IT 295329-01-0, Dynasilan DSF 8261
(in **catalytic** membrane prepn.; manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)
IT 108-95-2P, Phenol, preparation

(manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)

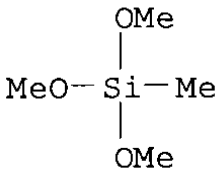
IT 71-43-2, Benzene, reactions 10024-97-2, Nitrous oxide, reactions
(manuf. of phenol by **catalytic oxidn.** of benzene with N2O in the presence of a **catalytically** active inorg. membrane)

L58 ANSWER 14 OF 24 HCA COPYRIGHT 2004 ACS on STN
133:75496 Zinc oxide-containing coating compositions and coating products of the compositions. Takeda, Mitsuo; Ueda, Yumiko; Kubo, Takafumi (Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000186237 A2 20000704, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-317376 19981109. PRIORITY: JP 1998-292549 19981014.

AB In the compns. with good UV- and heat-shielding properties and scratch resistance contg. ZnO-based particles and binders, and/or solvents, the ZnO-based particles are composed of 2 kinds and are characterized that (1) the ratio of the sizes of the crystallites measured perpendicularly to (100) and (002) directions [Ds(hkl)] by Shceller method (Cauchy function approxn.), i.e. Ds(002)/Ds(001), ≤1.2 and (2) a kind of the particles is elec. conductive and contains 0.1-20 at.% trivalent and/or tetravalent metals but shows ZnO crystallinity by x-ray diffractometry and the other kind of particles is elec. insulating and contains ≤0.01 at.% trivalent and/or tetravalent metals. The compns. are applied on substrates to form coated products. Thus, a MEK dispersion of ZnO contg. 0.5% Al with Ds(002)/Ds(100) 0.59 and another MEK dispersion of ZnO with Ds(002)/Ds(100) 0.89 were blended with an acrylic polymer and a polyisocyanate curing agent and dispersed to give a compn., which was applied on a PET film to give a product with visible light transmittance ≥75%, good UV shielding property, and good resistance to abrasion, weather, scratch, acid, soiling, and thermal **oxidn.**

IT **1185-55-3**
(surface-treatment layer; zinc oxide-contg. UV- and heat-shield coating compns. and coated products)

RN 1185-55-3 HCA
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT **1314-13-2**, Zinc oxide, uses

(zinc oxide-contg. UV- and heat-shield coating compns. and coated products)
RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

O=Zn

IC ICM C09D007-12
ICS C01G009-02; C09D005-00; C09D005-33
CC 42-13 (Coatings, Inks, and Related Products)
IT **Coating materials**
(abrasion- and scratch-resistant; zinc oxide-contg. UV- and heat-shield coating compns. and coated products)
IT **Coating materials**
(acid-resistant; zinc oxide-contg. UV- and heat-shield coating compns. and coated products)
IT **Coating materials**
(antisoiling, weather-resistant; zinc oxide-contg. UV- and heat-shield coating compns. and coated products)
IT **Coating materials**
(heat-resistant; zinc oxide-contg. UV- and heat-shield coating compns. and coated products)
IT **1185-55-3** 2269-22-9 5153-24-2, Zirconyl acetate 18282-10-5, Tin (IV) oxide 21645-51-2, Aluminum hydroxide, uses 122161-66-4, Tetramethoxysilane tetramer
(surface-treatment layer; zinc oxide-contg. UV- and heat-shield coating compns. and coated products)
IT **1314-13-2**, Zinc oxide, uses 37275-76-6, Aluminum zinc oxide 52934-06-2, Gallium zinc oxide 117944-65-7, Indium zinc oxide
(zinc oxide-contg. UV- and heat-shield coating compns. and coated products)

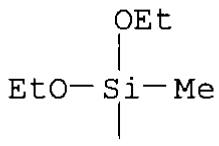
L58 ANSWER 15 OF 24 HCA COPYRIGHT 2004 ACS on STN
132:170306 Photocatalytic coating and formation of the coating on panels or wall for environmental pollution control. Nishimori, Hideki; Hashimoto, Akira; Tada, Kiyoshi (Showa Aluminium Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000051708 A2 20000222, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-225736 19980810.
AB This photocatalytic coating comprises a condensate product produced by hydrolysis and condensation reactions of trifunctional silane RSi(X)3 and a tetrafunctional silane Si(X)4 (R = alkyl, Ph, or vinyl; X = alkoxyl or a halogen), a TiO2 particle as a photolysis catalyst, Ag as a disinfecting and fungicidal agent, and Cu as a disinfecting agent and has functions for **deodorization**, disinfection, and fungicide and excellent processibility and durability to deterioration by light. The coating is formed by

hydrolyzing and condensation-polymg. those silane compds. in the presence of alc. or other org. solvents, a Ag salt, and a Cu salt to obtain a sol, mixing TiO2 particle with the silane compds. from the beginning of the hydrolysis and condensation-polymn. or with the resultant sol, applying the TiO2-contg. sol to a substrate of a metal or the like, drying the substrate, and alternatively heating the obtained substrate at ≤500°. The coating may be formed on construction panels and walls for air **deodorization** and stain prevention of the panels and walls by the photocatalytic function.

IT **2031-67-6**, Triethoxymethylsilane
(photocatalyst-contg. coating by hydrolysis and condensation of; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)

RN 2031-67-6 HCA

CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IT **13463-67-7**, Titanium dioxide, processes
(photocatalytic coating with **deodorization**, disinfection, and fungicidal function)

RN 13463-67-7 HCA

CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

IC ICM B01J035-02
ICS A01N025-10; A01N025-34; A01N059-06; A01N059-16; A01N059-20; C08K003-08; C08K003-22; C08L083-04; C01G023-047

CC 59-6 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 58, 67, 74

IT Construction materials
(boards; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)

IT Photolysis catalysts
(coating on construction panel and wall; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)

IT Air purification
(**deodorization**; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)

IT Cladosporium cladosporioides
Escherichia coli
(disinfection of; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)
IT Silanes
(multifunctional, photocatalyst-contg. coating by hydrolysis and condensation of; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)
IT Fungicides
(photocatalytic coating as; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)
IT Environmental pollution control
Sterilization and Disinfection
Walls (construction)
(photocatalytic coating with **deodorization**, disinfection, and fungicidal function)
IT 7664-41-7, Ammonia, processes
(decompn. of; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)
IT 78-10-4, Tetraethoxysilane **2031-67-6**, Triethoxymethylsilane
(photocatalyst-contg. coating by hydrolysis and condensation of; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)
IT 7440-22-4, Silver, processes 7440-50-8, Copper, processes 21645-51-2, Aluminum hydroxide, processes
(photocatalytic coating contg.; photocatalytic coating with **deodorization**, disinfection, and fungicidal function)
IT **13463-67-7**, Titanium dioxide, processes
(photocatalytic coating with **deodorization**, disinfection, and fungicidal function)

L58 ANSWER 16 OF 24 HCA COPYRIGHT 2004 ACS on STN
132:24150 Washing bar composition with silicone deposition agent and inorganic benefit agent. Yang, May Wai Kun; Pawson, Emma; Foster, Simon (Cussons (International) Limited, UK). Brit. UK Pat. Appl. GB 2334724 A1 19990901, 15 pp. (English). CODEN: BAXXDU. APPLICATION: GB 1999-4220 19990225. PRIORITY: GB 1998-3831 19980225.
AB Thus, a personal cleansing bar contains silicone, surfactants and detersive agents, ≥1 inorg. compd. for **deodorizing**, UV stabilization, antibacterial, anti-dandruff, absorbancy, skin smoothing, oil emulsifying, or abrasiveness. An example bar contained dimethicone and titania premix, cetyl alc., stearic acid, paraffin wax, soap, Synperonic A7, NaCl, H2O, perfume, and glycerin.
IT **56275-01-5**
(deposition agent; washing bar compn. with silicone deposition agent and inorg. benefit agent)

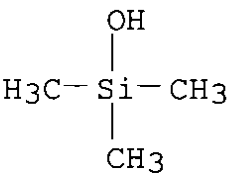
RN 56275-01-5 HCA
CN Silicic acid, trimethylsilyl ester (9CI) (CA INDEX NAME)

CM 1

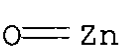
CRN 1343-98-2
CMF Unspecified
CCI MAN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 1066-40-6
CMF C3 H10 O Si



IT **1314-13-2**, Zinc oxide, uses **13463-67-7**, Titania, uses
(washing bar compn. with silicone deposition agent and inorg. benefit agent)
RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

IC ICM C11D003-37
ICA C11D017-00
CC 46-5 (Surface Active Agents and Detergents)
IT 9006-65-9, Dimethicone 31692-79-2, Dimethiconol **56275-01-5** 195868-36-1, Phenyltrimethicone
(deposition agent; washing bar compn. with silicone deposition agent and inorg. benefit agent)
IT 57-11-4, Stearic acid, uses 144-55-8, Sodium bicarbonate, uses 471-34-1, Calcium carbonate, uses 546-93-0, Magnesium carbonate **1314-13-2**, Zinc oxide, uses 1332-29-2, Tin oxide

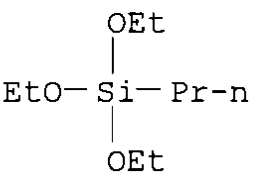
1335-30-4, Aluminum silicate 1343-97-1, Selenium sulfate
7446-70-0, Aluminum chloride, uses 7631-86-9, Silica, uses
13463-41-7, Zinc pyrithione **13463-67-7**, Titania, uses
14807-96-6, Talc, uses 36653-82-4, Cetyl alcohol
(washing bar compn. with silicone deposition agent and inorg. benefit agent)

L58 ANSWER 17 OF 24 HCA COPYRIGHT 2004 ACS on STN
130:131707 Method for supporting photocatalyst particles. Kato, Kenji (Matsushita Seiko Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11010005 A2 19990119 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-160810 19970618.

AB Aq. dispersions of photocatalyst particles are applied on supports, dried, coated with binder soln., and dried for bonding of the particles with other particles and the support. Org. solvent contg. dispersion of org. Si compd. having unhydrolyzable functional group and hydrolyzate of org. Si compd. using acid is used as the binder soln. Effective photolysis is carried out due to adsorbability of the binder. The catalysts are for **deodorization**, sterilization, etc.

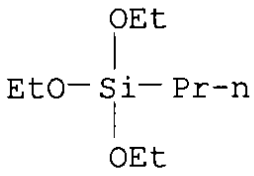
IT **29656-55-1DP**, Chloropropyltriethoxysilane, reaction products with silica gel **86876-45-1DP**, Trifluoropropyltriethoxysilane, reaction products with silica gel
(binder; organosilane and silane hydrolyzate as binders in application of photocatalysts on supports)

RN 29656-55-1 HCA
CN Silane, (chloropropyl)triethoxy- (9CI) (CA INDEX NAME)



D1—Cl

RN 86876-45-1 HCA
CN Silane, triethoxy(trifluoropropyl)- (9CI) (CA INDEX NAME)



3 (D1—F)

IT **13463-67-7**, Titania, processes
(photocatalyst; organosilane and silane hydrolyzate as binders in application of photocatalysts on supports)
RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

IC ICM B01J035-02
ICS B01J037-02; C01G023-04
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 59
IT 919-30-2DP, reaction products with silica gel **29656-55-1DP**, Chloropropyltriethoxysilane, reaction products with silica gel **86876-45-1DP**, Trifluoropropyltriethoxysilane, reaction products with silica gel
(binder; organosilane and silane hydrolyzate as binders in application of photocatalysts on supports)
IT **13463-67-7**, Titania, processes
(photocatalyst; organosilane and silane hydrolyzate as binders in application of photocatalysts on supports)

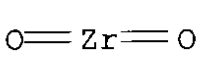
L58 ANSWER 18 OF 24 HCA COPYRIGHT 2004 ACS on STN
129:6864 Sol-gel-derived coatings on steel sheets. Izumi, K.; Minami, N.; Uchida, Y. (Nisshin Steel Co., Ltd., Sakai, 592, Japan). Key Engineering Materials, 150(Sol-Gel Production), 77-87 (English) 1998. CODEN: KEMAEY. ISSN: 1013-9826. Publisher: Trans Tech Publications Ltd..
AB Requirements for sol-gel coatings are discussed and the properties of coating films prepd. from organo-Zr compds. and trifunctional alkoxysilanes are presented. ZrO2 coating on stainless steel sheets were produced in air from Zr-tetraoctylate or Zr-acetylacetonate. The improved **oxidn.** resistance of the coated steel is a function of film thickness. Good adhesion of the coating film

prepd. from methyltrialkoxysilane after bending, drawing, and pressing of the steel sheets was obtained at firing temps. from 200-300°. This is ascribed to a flexible film structure due to remaining Si-CH3 and Si-OH bonds.

IT **1314-23-4**, Zirconium dioxide, uses
(coating; sol-gel-derived coatings on steel sheets)

RN 1314-23-4 HCA

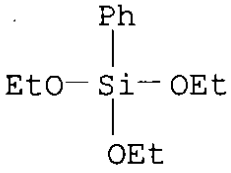
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)



IT **780-69-8**, Phenyl triethoxysilane **2031-67-6**, Methyl triethoxysilane
(sol-gel-derived coatings on steel sheets)

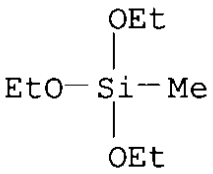
RN 780-69-8 HCA

CN Silane, triethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 2031-67-6 HCA

CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



CC 55-6 (Ferrous Metals and Alloys)
Section cross-reference(s): 42

ST stainless steel coating organozirconium compd; sol gel coating **oxidn** resistance steel

IT **Coating materials**
(anticorrosive; sol-gel-derived coatings on steel sheets)

IT **Coating process**
(sol-gel; sol-gel-derived coatings on steel sheets)

IT **1314-23-4**, Zirconium dioxide, uses
(coating; sol-gel-derived coatings on steel sheets)

IT 78-10-4, Tetraethoxysilane **780-69-8**, Phenyl triethoxysilane **2031-67-6**, Methyl triethoxysilane 7449-59-4, Zirconium tetraoctylate 17501-44-9, Zirconium

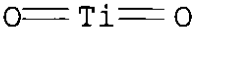
acetylacetonate
(sol-gel-derived coatings on steel sheets)

L58 ANSWER 19 OF 24 HCA COPYRIGHT 2004 ACS on STN
128:68366 Effects of Water, Salt Water, and Silicone **Overcoating** of the TiO2 Photocatalyst on the Rates and Products of Photocatalytic **Oxidation** of Liquid 3-Octanol and 3-Octanone. Sunada, Futoshi; Heller, Adam (Department of Chemical Engineering, The University of Texas at Austin, Austin, TX, 78712-1062, USA). Environmental Science and Technology, 32(2), 282-286 (English) 1998. CODEN: ESTHAG. ISSN: 0013-936X. Publisher: American Chemical Society.

AB The environment of the TiO2 photocatalyst affects the rate and the ratio of products generated in the photocatalytic **oxidn.** of liq. 3-octanol and 3-octanone. The rates and products were detd. with two photocatalysts, one directly soln.-contacting and hydrophilic, the other embedded in a poly(methylsiloxane) and hydrophobic: in the neat org. reactant, without added water; with added water; and with NaCl (0.5 M) in the water. 3-Octanone was **oxidized** to CO2 and to two org. phase extd. products n-hexanoic acid and n-pentanal. The org. phase extd. initial **oxidn.** products of 3-octanol were 3-octanone, n-hexanal, and n-pentanal. The CO2 evolution rate was highest in neat 3-octanone when the hydrophilic photocatalyst was in direct contact with the liq. reactant, in which the **catalyst** particles were uniformly dispersed. When water was added, this photocatalyst resided at the liq.-liq. interface, and the rate of CO2 evolution was reduced. The rate was further reduced when NaCl was added. When the TiO2 was embedded in the hydrophobic silicone, the photocatalyst remained dispersed in the org. phase, and the reaction was not inhibited by NaCl. The rate of CO2 formation now exceeded that for the hydrophilic **catalyst.**

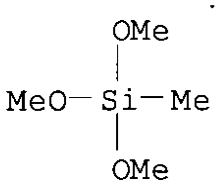
IT **13463-67-7**, Titania, processes
(effects of titania **catalyst** environment on photocatalytic **oxidn.** of liq. octanol and octanone)

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **1185-55-3**
(in prepn. of hydrophilic poly(methylsiloxane) embedded titania **catalyst** for photocatalytic **oxidn.** of liq. octanol and octanone)

RN 1185-55-3 HCA
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST titania photocatalytic **oxidn** octanol octanone
IT Ceramics
(aluminosilicate; prepn. of hydrophilic poly(methylsiloxane) embedded titania **catalyst** for photocatalytic **oxidn.** of liq. octanol and octanone)
IT Aluminosilicates, uses
(ceramics; prepn. of hydrophilic poly(methylsiloxane) embedded titania **catalyst** for photocatalytic **oxidn.** of liq. octanol and octanone)
IT **Oxidation**, photochemical
(effects of titania **catalyst** environment on photocatalytic **oxidn.** of liq. octanol and octanone)
IT **Oxidation catalysts**
Oxidation kinetics
(photooxidn.; effects of titania **catalyst** environment on photocatalytic **oxidn.** of liq. octanol and octanone)
IT **13463-67-7**, Titania, processes
(effects of titania **catalyst** environment on photocatalytic **oxidn.** of liq. octanol and octanone)
IT 66-25-1, n-Hexanal 109-52-4, Pentanoic acid, processes 110-62-3, n-Pentanal 124-38-9, Carbon dioxide, processes 142-62-1, n-Hexanoic acid, processes
(effects of titania **catalyst** environment on photocatalytic **oxidn.** of liq. octanol and octanone)
IT 106-68-3, 3-Octanone 589-98-0, 3-Octanol
(effects of titania **catalyst** environment on photocatalytic **oxidn.** of liq. octanol and octanone)
IT 7647-14-5, Sodium chloride, properties 7732-18-5, Water, properties
(effects of titania **catalyst** environment on photocatalytic **oxidn.** of liq. octanol and octanone)
IT **1185-55-3**
(in prepn. of hydrophilic poly(methylsiloxane) embedded titania **catalyst** for photocatalytic **oxidn.** of liq. octanol and octanone)
IT 7782-44-7, Oxygen, reactions
(in prepn. of hydrophilic poly(methylsiloxane) embedded titania **catalyst** for photocatalytic **oxidn.** of liq. octanol and octanone)

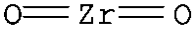
IT 200295-77-8, Cenolite C
(prepn. of hydrophilic poly(methylsiloxane) embedded titania **catalyst** for photocatalytic **oxidn.** of liq. octanol and octanone)

L58 ANSWER 20 OF 24 HCA COPYRIGHT 2004 ACS on STN
126:21940 Inclusion of fluorophores in hybrid sol-gel coatings; application to in situ temperature measurements. Audebert, P.; Bresson, F.; Devillers, R.; Tribillon, G. (Laboratoire de Chimie Organique, Universite de Franche-Comte, La Bouloie, route de Gray, Besancon, 25030, Fr.). Synthetic Metals, 81(2-3, 2nd Japan-France Joint Forum (JFJF'2) on Organic Materials and Optoelectronic Devices, 1995), 315-318 (English) 1996. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier.

AB New org.-inorg. sol-gel films have been prepd. starting from a mixt. of silicon and zirconium alkoxides using a synthesis process of several steps. Coatings loaded with a fluorescent CaF2:Yr2+ powder have been deposited on stainless steel rendered adhesive by a special **oxidative** surface treatment. The final deposits have successfully supported drastic adherence std. tests after several dips into liq. nitrogen, and have been used for temp.-dependent fluorescence decay measurement. The loaded gels have been coated on a rotating cylinder into liq. nitrogen and the fluorescence decay measurement device is described. Efficient measurements can be registered at rotating speeds as fast as 4000 rpm.

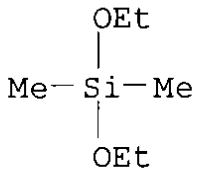
IT **1314-23-4P**, Zirconia, preparation
(coatings, silica-zirconia, hybrid; sol-gel prepn. of adhesive fluorescent org.-inorg. hybrid coatings for steel and application to in situ temp. measurements)

RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)

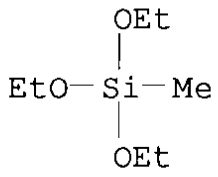


IT **78-62-6**, Dimethyldiethoxysilane **2031-67-6**, Triethoxymethylsilane
(precursor; sol-gel prepn. of adhesive fluorescent org.-inorg. hybrid coatings for steel and application to in situ temp. measurements)

RN 78-62-6 HCA
CN Silane, diethoxydimethyl- (8CI, 9CI) (CA INDEX NAME)



RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



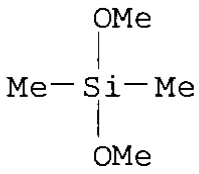
CC 57-2 (Ceramics)
IT **Coating process**
(sol-gel; sol-gel prepn. of adhesive fluorescent org.-inorg. hybrid coatings for steel and application to in situ temp. measurements)
IT **1314-23-4P**, Zirconia, preparation 7631-86-9P, Silica, preparation
(coatings, silica-zirconia, hybrid; sol-gel prepn. of adhesive fluorescent org.-inorg. hybrid coatings for steel and application to in situ temp. measurements)
IT **78-62-6**, Dimethyldiethoxysilane **2031-67-6**, Triethoxymethylsilane 52892-19-0
(precursor; sol-gel prepn. of adhesive fluorescent org.-inorg. hybrid coatings for steel and application to in situ temp. measurements)

L58 ANSWER 21 OF 24 HCA COPYRIGHT 2004 ACS on STN
117:234755 Manufacture of porous inorganic materials based on hydrolyzed silanes as **deodorants**. Yokogawa, Hiroshi; Yokoyama, Masaru; Takahama, Koichi; Kamigaki, Yuriko (Matsushita Electric Works, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 04198237 A2 19920717 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-327242 19901127.
AB The title materials, light-transmitting with high sp. surface area and useful as **deodorants** for air fresheners, are prepd. by hydrolyzing silanes R1nSi(OR2)4-n (R1-2 = C1-5 alkyl, Ph; n = 0-2) and supercrit. drying of the resulting gels while dispersing ≥1 colloidal inorg. compd., cationic inorg. compd., and/or metal alkoxide in the compns. before gelling. A hydrolyzate of (EtO)4Si was mixed with a hydrolyzate of (PrO)4Ti and allowed to

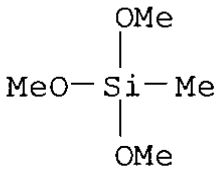
gel, and the gel was mixed with EtOH, aged at 50°, placed under CO2 at 18°/55 atm to replace EtOH with CO2, and dried under CO2 at 40°/80 atm to give a porous material with sp. surface area 854 m2/g, bulk d. 0.14 g/cm3, and light transmission 79%. A sheet (5 + 15 + 15 cm) of the material in a box (vol. 2.5 m3) contg. a gas with NH3 concn. 50 ppm reduced the concn. of NH3 to 2 ppm during 10 min.

IT **1112-39-6DP**, Dimethyldimethoxysilane, hydrolyzates
1185-55-3DP, Methyltrimethoxysilane, hydrolyzates
(manuf. of porous, transparent, inorg. colloid-contg., as **deodorants**)

RN 1112-39-6 HCA
CN Silane, dimethoxydimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

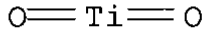


RN 1185-55-3 HCA
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT **13463-67-7**, Titania, miscellaneous
(sols, siloxanes contg. silica sols and, as **deodorants**)

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IC ICM C08J009-28
CC 35-6 (Chemistry of Synthetic High Polymers)
ST transparency silicate titanate polymer; porosity silicate titanate polymer; **deodorant** silicate titanate polymer; absorbent silicate titanate polymer
IT Siloxanes and Silicones, uses
(**deodorants**, contg. inorg. colloids, porous, transparent)
IT **Deodorants**

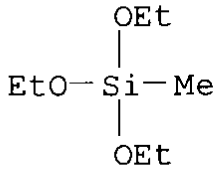
(siloxanes contg. inorg. colloids, porous, transparent)
IT Transparent materials
(siloxanes, contg. inorg. colloids, porous, as **deodorants**)
IT Drying
(supercrit., of siloxanes contg. inorg. colloids, for **deodorants**)
IT 124-38-9, Carbon dioxide, uses
(drying by, of alkoxysilane hydrolyzates contg. inorg. colloids, for **deodorants**)
IT 78-10-4DP, Tetraethoxysilane, hydrolyzates 681-84-5DP, Tetramethoxysilane, hydrolyzates **1112-39-6DP**, Dimethyldimethoxysilane, hydrolyzates **1185-55-3DP**, Methyltrimethoxysilane, hydrolyzates
(manuf. of porous, transparent, inorg. colloid-contg., as **deodorants**)
IT 3087-37-4D, Tetrapropoxytitanium, hydrolyzates
(siloxanes contg., manuf. of porous, transparent, as **deodorants**)
IT 7550-45-0D, Titanium tetrachloride, hydrolyzates
(siloxanes contg., porous, transparent, as **deodorants**)
IT **13463-67-7**, Titania, miscellaneous
(sols, siloxanes contg. silica sols and, as **deodorants**)
IT 7631-86-9, Silica, miscellaneous
(sols, siloxanes contg. titania sols and, as **deodorants**)

L58 ANSWER 22 OF 24 HCA COPYRIGHT 2004 ACS on STN
116:135528 Performance-oriented packaging standards; changes to classification, hazard communication, packaging and handling requirements based on UN standards and agency initiative. (United States Dept. of Transportation, Washington, DC, 20590-0001, USA). Federal Register, 55(246), 52402-729 (English) 21 Dec 1990. CODEN: FEREAC. ISSN: 0097-6326.

L58 ANSWER 23 OF 24 HCA COPYRIGHT 2004 ACS on STN
112:162980 Manufacture of colored stainless steel strips resistant to wear, heat, and finger print. Murakami, Megumi; Deguchi, Takenori; Izumi, Keiji; Tanaka, Hidetoshi (Nisshin Steel Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 01149966 A2 19890613 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-307397 19871207.
AB The title strips are manufd. by dipping them into an aq. H_2CrO_4 and H_2SO_4, and subsequent coating with a metal oxide layer for resistance to wear, heat, and finger print. The metal oxide layer is formed by using an alc. soln. contg. ≥0.05% of an alkoxide, acetylacetonate complex, or octanoate of Si, Al, Ti, or Zr followed by heating at 200-500°.
IT **2031-67-6**, Monomethyltriethoxysilane

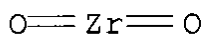
(coating with aq. bath contg., of **oxidn.**-colored stainless steel, for resistance to heat and finger print)

RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)

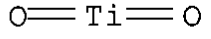


IT **1314-23-4**, Zirconia, uses and miscellaneous
13463-67-7, Titania, uses and miscellaneous
(coating with, of **oxidn.**-colored stainless steel, for resistant to heat and finger print)

RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IC ICM C23C018-12
ICS C23C022-83
CC 55-6 (Ferrous Metals and Alloys)
ST stainless steel **oxidn** coloring coating; metal oxide coating stainless steel; alkoxide coating stainless steel; acetylacetonate coating stainless steel; octanoate coating stainless steel; chromic acid **oxidn** coloring steel
IT **Coating process**
(with metal oxide, of stainless steel, in manuf. of colored strips)
IT 11109-50-5, SUS 304 11109-52-7, SUS 430
(coating of **oxidn.** colored, with metal oxide, for resistance to heat and finger print)
IT 546-68-9 555-31-7, Aluminum isopropoxide **2031-67-6**, Monomethyltriethoxysilane 2171-98-4, Zirconium isopropoxide 5206-47-3, Zirconium octanoate 7631-86-9, Silica, uses and miscellaneous 11099-06-2, Ethyl silicate 13963-57-0, Aluminum acetylacetonate 17501-44-9, Zirconium acetylacetonate 17501-79-0, Titanium acetylacetonate
(coating with aq. bath contg., of **oxidn.**-colored

stainless steel, for resistance to heat and finger print)

IT **1314-23-4**, Zirconia, uses and miscellaneous 1344-28-1, Alumina, uses and miscellaneous **13463-67-7**, Titania, uses and miscellaneous
(coating with, of **oxidn.**-colored stainless steel, for resistant to heat and finger print)

IT 7664-93-9, Sulfuric acid, uses and miscellaneous 7738-94-5, Chromic acid (H2CrO4)
(**oxidn.** coloring bath contg., in coating of stainless steel with metal oxide)

L58 ANSWER 24 OF 24 HCA COPYRIGHT 2004 ACS on STN

108:10481 Method for producing multilayer, decorative, bituminous, protective coatings with improved weather resistance. Gottfried, Rudolf; Herzog, Rainer; Mann, Juergen; Linde, Klaus (Bauakademie der DDR, Institut fuer Wohnungs- und Gesellschaftsbau, Ger. Dem. Rep.). Ger. (East) DD 245891 A1 19870520, 4 pp. (German). CODEN: GEXXA8. APPLICATION: DD 1986-286863 19860207.

AB The title coatings are produced by spreading 100-400 g/m2 primer on dry, absorbent concrete plates that immediately absorb the entire amt. without forming a layer, allowing a drying period of at least 1-2 days or 2-8 h for hot-air drying, spreading 1-10 kg/m2 material on the dry surfaces as a main coating, which is dried at, e.g., 288-333 K, and spreading 100-300 g/m2 of the material as a top coating on the dried main coating. This last step may be performed after the construction. These coatings are durable and are useful for flat and gable roofs. Thus, 1 h after warming, a concrete gable roof element, at 315 K, was treated with a 400 g/m2 of a mixt. consisting of bitumen 20, white spirit 50, trichloroethylene 10, BuOAc 5, and MIBK 15 wt.%. Drying was carried out using hot air. After 2 h the element was coated with 10 kg/m2 of a mixt. of bitumen dispersion 30, caoutchouc 20, kaolin 5, and (total) water 45 wt.%. Drying was carried out with hot air for 48 h. A final coat was applied in an amt. of 100 g/m2 and consisting of bitumen 40, polyvinyl iso-Bu ether 5, polysiloxane resin (90 Ph and 90 Me groups per 100 Si atoms) 5, tricresyl phosphate 5, dioctyl phthalate 5, Al bronze 6, Fe oxide yellow 4, xylene 15, and turpentine oil 15 wt.%. The element was ready for transport in 24 h.

IT **1309-37-1**, Iron oxide red, uses and miscellaneous
(bituminous top coats contg., in coating of concrete roofing slabs)

RN 1309-37-1 HCA

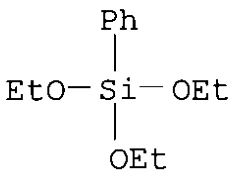
CN Iron oxide (Fe2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **780-69-8**, Phenyltriethoxy silane
(surface impregnation by solns. contg., in coating of concrete roofing slabs with bitumen compns.)

RN 780-69-8 HCA

CN Silane, triethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L095-00
ICS E04B001-62
CC 58-4 (Cement, Concrete, and Related Building Materials)
IT Pigments
(metallic and **oxidic**, bituminous top coats contg., in coating of concrete roofing slabs)
IT **Coating process**
(of concrete roofing slabs, with multiple bituminous coatings)
IT **1309-37-1**, Iron oxide red, uses and miscellaneous 9003-44-5, Poly(vinyl isobutyl ether) 9003-49-0, Acrylic acid, butyl ester, homopolymer 51274-00-1, Iron oxide yellow
(bituminous top coats contg., in coating of concrete roofing slabs)
IT **780-69-8**, Phenyltriethoxy silane 11099-06-2, Ethyl silicate
(surface impregnation by solns. contg., in coating of concrete roofing slabs with bitumen compns.)

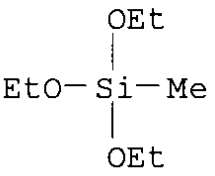
=> d l59 1-12 cbib abs hitstr hitind

L59 ANSWER 1 OF 12 HCA COPYRIGHT 2004 ACS on STN
138:206819 **Oxidation** of Cyclohexene with Hydrogen Peroxide Using Zirconia-Silica Mixed Oxides: Control of the Surface Hydrophilicity and Influence on the Activity of the **Catalyst** and Hydrogen Peroxide Efficiency. Morandin, Marco; Gavagnin, Roberta; Pinna, Francesco; Strukul, Giorgio (Department of Chemistry and Consorzio INSTM, University of Venice, Venice, 30123, Italy). Journal of Catalysis, 212(2), 193-200 (English) 2002. CODEN: JCTLA5. ISSN: 0021-9517. Publisher: Elsevier Science.
AB ZrO2/SiO2 were prepd. by a sol-gel process under basic conditions to yield mesoporous solids. Surface modification with was carried out by addn. of methyltriethoxysilane during prepn. The extent of methylation controls the surface area, porosity and **catalytic** activity of the solids in **oxidn.** of cyclohexene with H2O2 to give cyclohexandiol. An increase in surface methylation results in a four-fold increase in the specific activity and up to 85% efficiency in the use of H2O2.
IT **1314-23-4**, Zirconia, uses **2031-67-6**,

Methyltriethoxysilane
(cyclohexene **oxidn.** to cyclohexandiol with H2O2 using methyltriethoxysilane-modified ZrO2/SiO2 **catalysts**)
RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)

O═Zr═O

RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 67
ST cyclohexene **oxidn** modified zirconia silica **catalyst**; cyclohexandiol prepn cyclohexene **oxidn catalyst**
IT **Oxidation catalysts**
(cyclohexene **oxidn.** to cyclohexandiol with H2O2 using methyltriethoxysilane-modified ZrO2/SiO2 **catalysts**)
IT **1314-23-4**, Zirconia, uses **2031-67-6**, Methyltriethoxysilane 7631-86-9, Silica, uses
(cyclohexene **oxidn.** to cyclohexandiol with H2O2 using methyltriethoxysilane-modified ZrO2/SiO2 **catalysts**)
IT 931-17-9P, 1,2-Cyclohexanediol
(cyclohexene **oxidn.** to cyclohexandiol with H2O2 using methyltriethoxysilane-modified ZrO2/SiO2 **catalysts**)
IT 110-83-8, Cyclohexene, reactions
(cyclohexene **oxidn.** to cyclohexandiol with H2O2 using methyltriethoxysilane-modified ZrO2/SiO2 **catalysts**)
IT 7722-84-1, Hydrogen peroxide, reactions
(cyclohexene **oxidn.** to cyclohexandiol with H2O2 using methyltriethoxysilane-modified ZrO2/SiO2 **catalysts**)

L59 ANSWER 2 OF 12 HCA COPYRIGHT 2004 ACS on STN
138:25070 **Catalysts** for carboxylic acid ester synthesis and production method of carboxylic acid esters. Hayashi, Toshio (Nippon Shokubai Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002361086 A2 20021217, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-167740 20010604.
AB Title **catalysts** for reaction of aldehydes and alcs. under

oxygen comprise ultra fine gold particles with av. particle diam. ≤6 nm supported with inorg. oxides. Thus, 40 g AC 12R (γ-alumina) and 500 mL 10 mmol aq. chloroauric acid were stirred at 65°-70° for 1 h at pH 7, washed with water, dried at 100° for 10 h, and baked at 300° for 3 h under air to give an alumina-supported gold with gold content 4.6% and av. particle diam. ≤5 nm, which was used for synthesis of Me methacrylate from methacrolein and methanol giving methacrolein conversion 88%, Me methacrylate selectivity 85%, yield 75%, and Me methacrylate synthetic activation 13.6 mol/h/kg-**catalyst.**

IT **1309-37-1P**, Iron trioxide, preparation
(**catalyst**, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

RN 1309-37-1 HCA
CN Iron oxide (Fe2O3) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **1314-13-2**, Zinc oxide, uses **1314-23-4**, Zirconia, uses **13463-67-7**, Titania, uses
(**catalyst**, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

O═Zn

RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)

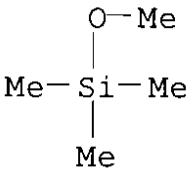
O═Zr═O

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O═Ti═O

IT **1825-61-2DP**, Methoxytrimethylsilane, reaction products with lanthanum silicon oxide
(prepn. of **catalysts** for carboxylic acid ester synthesis)

RN 1825-61-2 HCA
CN Silane, methoxytrimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM B01J023-52
ICS B01J023-66; B01J023-89; C07C067-44; C07C069-24; C07C069-54; C07C069-67; C07C069-78; C07B061-00

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 45, 67

ST **catalyst** carboxylic acid ester synthesis; alumina supported gold **catalyst** methyl methacrylate prepn

IT Oxides (inorganic), uses
(**catalysts**, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

IT Esterification **catalysts**
(**oxidative**, inorg. oxide-supported gold; prepn. of **catalysts** for carboxylic acid ester synthesis)

IT Alcohols, reactions
Aldehydes, reactions
(reactant in carboxylic acid ester prepn.; prepn. of **catalysts** for carboxylic acid ester synthesis)

IT 159101-44-7DP, Lanthanum silicon oxide, trimethylsilyl derivs.
(**catalyst**, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

IT **1309-37-1P**, Iron trioxide, preparation 52337-09-4P, Silicon titanium oxide 159101-47-0P, Cerium silicon oxide 159747-44-1P, Silicon zinc oxide 159995-97-8P, Aluminum silicon oxide 478070-49-4P, Lead magnesium silicon oxide
(**catalyst**, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

IT 159101-44-7P, Lanthanum silicon oxide
(**catalyst**, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

IT **1314-13-2**, Zinc oxide, uses **1314-23-4**, Zirconia, uses **13463-67-7**, Titania, uses
(**catalyst**, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

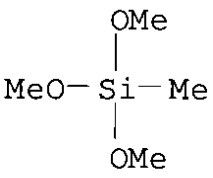
IT 7440-57-5P, Gold, preparation
(**catalyst**, inorg. oxide-supported; prepn. of **catalysts** for carboxylic acid ester synthesis)

IT **1825-61-2DP**, Methoxytrimethylsilane, reaction products with lanthanum silicon oxide
(prepn. of **catalysts** for carboxylic acid ester synthesis)

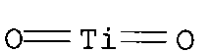
IT 7631-86-9, CariAct Q 10, uses
(prepn. of **catalysts** for carboxylic acid ester synthesis)
IT 80-62-6P, Methyl methacrylate 96-33-3P, Methyl acrylate 97-62-1P, Ethyl isobutyrate 105-37-3P, Ethyl propionate 922-68-9P 2315-68-6P, Propyl benzoate
(prepn. of **catalysts** for carboxylic acid ester synthesis)
IT 5593-70-4, Titanium n-butoxide 6080-56-4 7782-61-8 7784-27-2, Aluminum nitrate nonahydrate 10196-18-6, Zinc nitrate hexahydrate 10277-43-7, Lanthanum nitrate hexahydrate 16674-78-5, Magnesium acetate tetrahydrate 16903-35-8, Chloroauric acid 17309-53-4, Cerium nitrate
(prepn. of **catalysts** for carboxylic acid ester synthesis)
IT 64-17-5, Ethyl alcohol, reactions 67-56-1, Methanol, reactions 71-23-8, 1-Propanol, reactions 78-84-2 78-85-3, Methacrolein 100-52-7, Benzaldehyde, reactions 107-02-8, Acrolein, reactions 107-22-2, Glyoxal 123-38-6, Propionaldehyde, reactions
(reactant in carboxylic acid ester prepn.; prepn. of **catalysts** for carboxylic acid ester synthesis)
IT 1344-28-1, γ-Alumina, uses
(γ-, **catalyst**, AC 12R, gold supported with; prepn. of **catalysts** for carboxylic acid ester synthesis)

L59 ANSWER 3 OF 12 HCA COPYRIGHT 2004 ACS on STN
137:155289 Continuous process for the synthesis of nano-scale precious metal particles. Sturmann, Martin; Weisbeck, Markus; Wegener, Gerhard; Zbrozek, Frank (Bayer Aktiengesellschaft, Germany). U.S. Pat. Appl. Publ. US 2002115873 A1 20020822, 9 pp. (English). CODEN: USXXCO. APPLICATION: US 2002-74274 20020212. PRIORITY: DE 2001-10107777 20010216.
AB The present invention relates to the continuous prodn. of nano-scale precious metal particles on SiH-contg. support materials, the compns. themselves, and the use of these precious metal-contg. compns. as **catalyst**. The continuous process according to the invention includes impregnating support materials and, after thermal activation, drying the support materials by spraying or by fluidized bed technol. leads to form precious metal-contg. support compns. that are active in the **catalysis** of **oxidn**. reactions. The **catalytically** active precious metal-contg. support compns. exhibit high selectivities and productivities and have very long **catalyst** service lives without deactivation. The invention also relates to a process for the **oxidn**. of hydrocarbons in the presence of oxygen, a reducing agent and the precious-metal contg. support compns. of the present invention.

IT **1185-55-3**, Methyl trimethoxysilane **13463-67-7**, Titanium oxide, uses
(continuous process for synthesis of nano-scale precious metal particles)
RN 1185-55-3 HCA
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IC ICM B01J023-40
ICS C07D301-10
NCL 549534000
CC 35-2 (Chemistry of Synthetic High Polymers)
ST nano scale precious metal **oxidn catalyst** propylene oxide prepn
IT **Oxidation catalysts**
(continuous process for synthesis of nano-scale precious metal particles)
IT 998-30-1, Triethoxysilane **1185-55-3**, Methyl trimethoxysilane 5593-70-4, Tetrabutoxytitanium 7631-86-9, Silicon oxide, uses 11098-99-0, Molybdenum oxide **13463-67-7**, Titanium oxide, uses 16903-35-8, Tetrachloroauric acid
(continuous process for synthesis of nano-scale precious metal particles)

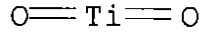
L59 ANSWER 4 OF 12 HCA COPYRIGHT 2004 ACS on STN
135:195932 **Catalysts** for preparation of epoxides and manufacture of the **catalysts**. Hayashi, Toshio; Inagaki, Takahiro; Wada, Masahiro (Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001232194 A2 20010828, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-52194 20000223.
AB The **catalysts**, useful to partially **oxidize** unsatd. hydrocarbons into epoxides, are ultrafine Au particles fixed on Ti and/or Zr oxide-contg. supports having a NH3 loss content of ≤0.1 m-mol/g at 50-400° for NH3 absorbed at ≤50° . A support (prepd. from Ti oxide

acetylacetonate, KOMe, NaOMe, and SiO2 base) was soaked in a MeOH soln. contg. dimethylgold acetylacetonate, distd., and baked to give a Au-fixed **catalyst** with NH3 loss content of 0.043 m-mol/g, which was used in **oxidn.** of C3H6 for 0.5 h to form propylene oxide in 4.1% yield and showing good **catalyst** recovery ability.

IT **13463-67-7P**, Titania, preparation
(alkoxysilane-treated; manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

RN 13463-67-7 HCA

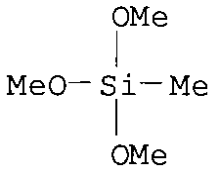
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **1185-55-3**, Methyltrimethoxysilane
(**catalyst** support treating agent; manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

RN 1185-55-3 HCA

CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM B01J023-52
ICS B01J023-58; B01J032-00; C07D301-10; C07B061-00

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67

ST gold fixed oxide support **catalyst** olefin **oxidn** epoxide

IT Epoxidation **catalysts**
(manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT Oxides (inorganic), preparation
(manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT Epoxides
(manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT Alkenes, reactions
(manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT **13463-67-7P**, Titania, preparation

(alkoxysilane-treated; manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT 7631-86-9, Silica, uses
(base of **catalyst** support; manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT 110-86-1, Pyridine, uses **1185-55-3**, Methyltrimethoxysilane
(**catalyst** support treating agent; manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT 624-64-6, trans-2-Butene
(**catalyst** support treating agent; manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT 7440-57-5P, Gold, preparation 59818-39-2P, Potassium sodium titanium oxide 356796-93-5P 356796-94-6P 356796-95-7P
(manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT 75-56-9P, Propylene oxide, preparation 3266-23-7P, 2,3-Epoxybutane
(manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT 115-07-1, Propylene, reactions 590-18-1, cis-2-Butene
(manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

IT 124-41-4, Sodium methoxide 546-68-9, Titanium tetraisopropoxide 865-33-8, Potassium methoxide 3153-26-2 4119-52-2, Iron thiocyanate 13963-57-0, Aluminum trisacetylacetonate 14024-56-7, Magnesium acetylacetonate 14024-63-6, Zinc acetylacetonate 14024-64-7 14284-93-6 14951-50-9 17501-44-9, Zirconium tetrakis(acetylacetonate) 17524-05-9, Molybdenum dioxide bis(acetylacetonate) 18923-99-4
(precursor; manuf. of Au on Ti and/or Zr oxide support **catalysts** for **oxidn.** of olefins to epoxides)

L59 ANSWER 5 OF 12 HCA COPYRIGHT 2004 ACS on STN

134:6105 Microporous Zirconia-Silica Mixed Oxides Made by Sol-Gel as **Catalysts** for the Liquid-Phase **Oxidation** of Olefins with Hydrogen Peroxide. Palazzi, Chiara; Oliva, Liliana; Signoretto, Michela; Strukul, Giorgio (Department of Chemistry, University of Venice, Venice, 30123, Italy). Journal of Catalysis, 194(2), 286-293 (English) 2000. CODEN: JCTLA5. ISSN: 0021-9517. Publisher: Academic Press.

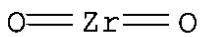
AB The prepn. of a series of microporous zirconia-silica mixed oxides by sol-gel is reported. These were characterized by BET methods, thermogravimetric anal., X-ray diffraction anal., UV-vis spectroscopy, and temp.-programmed desorption of ammonia. The materials have high surface areas; they are amorphous and possess only mild surface acidity. They have been tested in the

oxidn. of different substrates with hydrogen peroxide, particularly the **oxidn.** of cyclohexene. The **catalysts** are moderately active and produce mainly products arising from oxirane ring opening, particularly when the reactions are carried out in the absence of solvent. The use of a less hydrophilic reaction medium and/or the partial methylation of the silica surface tend to increase the reaction productivity and reduce hydrogen peroxide consumption. (c) 2000 Academic Press.

IT **1314-23-4P**, Zirconia, preparation
(**catalysts**; microporous zirconia-silica mixed oxides prepd. by sol-gel process as **catalysts** for liq.-phase **oxidn.** of olefins with hydrogen peroxide)

RN 1314-23-4 HCA

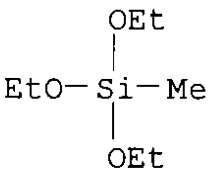
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)



IT **2031-67-6**, Methyltriethoxysilane
(microporous zirconia-silica mixed oxides prepd. by sol-gel process as **catalysts** for liq.-phase **oxidn.** of olefins with hydrogen peroxide)

RN 2031-67-6 HCA

CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

ST microporous zirconia silica **catalyst oxidn** olefin; cyclohexene **oxidn catalyst** zirconia silica

IT **Oxidation catalysts**
(microporous zirconia-silica mixed oxides prepd. by sol-gel process as **catalysts** for liq.-phase **oxidn.** of olefins with hydrogen peroxide)

IT **1314-23-4P**, Zirconia, preparation 7631-86-9P, Silica, preparation
(**catalysts**; microporous zirconia-silica mixed oxides prepd. by sol-gel process as **catalysts** for liq.-phase **oxidn.** of olefins with hydrogen peroxide)

IT 78-10-4, Tetraethoxysilane 98-85-1, 1-Phenylethanol 100-42-5, Styrene, reactions 100-51-6, Benzyl alcohol, reactions 110-83-8, Cyclohexene, reactions 563-79-1, 2,3-Dimethyl-2-butene 681-84-5,

Tetramethoxysilane 931-88-4, Cyclooctene **2031-67-6**, Methyltriethoxysilane 23519-77-9, Zirconium propoxide (microporous zirconia-silica mixed oxides prepd. by sol-gel process as **catalysts** for liq.-phase **oxidn.** of olefins with hydrogen peroxide)

IT 76-09-5P, 2,3-Dimethyl-2,3-dihydroxybutane 93-56-1P, Styrene glycol 98-86-2P, Acetophenone, preparation 100-52-7P, Benzaldehyde, preparation 822-67-3P, 2-Cyclohexen-1-ol 930-68-7P, 2-Cyclohexen-1-one 931-17-9P, 1,2-Cyclohexanediol 2979-24-0P, 2-Methoxycyclohexan-1-ol 4013-37-0P, 1,2-Dimethoxyethylbenzene 4277-32-1P, 1,2-Cyclooctanediol 51936-09-5P, 2,3-Dimethyl-3-methoxy-2-butanol (microporous zirconia-silica mixed oxides prepd. by sol-gel process as **catalysts** for liq.-phase **oxidn.** of olefins with hydrogen peroxide)

L59 ANSWER 6 OF 12 HCA COPYRIGHT 2004 ACS on STN

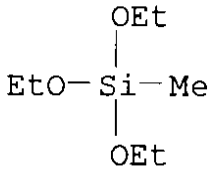
133:335623 Production of amorphous, noble-metal-containing titanium silicon mixed oxides for selective **oxidation** of hydrocarbons to epoxides. Weisbeck, Markus; Schild, Christoph; Wegener, Gerhard; Wiessmeier, Georg (Bayer Ag, Germany). Ger. Offen. DE 19920753 A1 20001026, 10 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1999-19920753 19990423.

AB In the manuf. of **catalysts** for the title reaction contg. Au and(or) Ag particles and an amorphous Ti-Si mixed oxides, domain-free latter oxides are manufd. by the sol-gel process. These **catalysts** show improved retention of activity during use.

IT **2031-67-6**, Triethoxymethylsilane (cocatalyst; prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)

RN 2031-67-6 HCA

CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IT **13463-67-7P**, Titanium oxide, preparation (prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)

RN 13463-67-7 HCA

CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

IC ICM B01J023-48
ICS C07D301-10; C07C045-33; C07C049-08
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 27, 67
ST sol gel process titanium silicon oxide **catalyst** support manuf; silver titanium silicon oxide **catalyst** **oxidn** hydrocarbon epoxide manuf; **oxidn** hydrocarbon epoxide manuf **catalyst** gold titanium silicon oxide
IT Polysiloxanes, uses
(cocatalyst; prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)
IT Silanes
(cocatalysts; prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)
IT Group IIIA element oxides
Group IVA element oxides
Group VB element oxides
(dopants; prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)
IT Sol-gel processing
(prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)
IT 999-97-3, 1,1,1,3,3,3-Hexamethyldisilazane **2031-67-6**, Triethoxymethylsilane 9016-00-6, Polydimethylsiloxane 31900-57-9, Polydimethylsiloxane
(cocatalyst; prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)
IT 1314-61-0P, Tantalum oxide
(dopant; prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)
IT 1327-33-9P, Antimony oxide 1332-37-2P, Iron oxide, preparation 1344-28-1P, Aluminum oxide, preparation 7440-22-4P, Silver, preparation 7440-57-5P, Gold, preparation 7631-86-9P, Silica, preparation **13463-67-7P**, Titanium oxide, preparation
(prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)
IT 67-64-1P, Acetone, preparation 75-56-9P, Propylene oxide, preparation 286-20-4P, Cyclohexene oxide 930-22-3P, Vinyloxirane

3266-23-7P, 2,3-Epoxybutane
(prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)

IT 74-98-6, Propane, reactions 106-99-0, 1,3-Butadiene, reactions 110-83-8, Cyclohexene, reactions 115-07-1, Propene, reactions 624-64-6, trans-2-Butene
(prodn. of amorphous, noble-metal-contg. titanium silicon mixed oxides using sol-gel processing for oxide prepn. for selective **oxidn.** of hydrocarbons to epoxides)

L59 ANSWER 7 OF 12 HCA COPYRIGHT 2004 ACS on STN
131:171859 **Catalyst** for partial **oxidation** of unsaturated hydrocarbon to epoxide. Hayashi, Toshio; Wada, Masahiro; Haruta, Masatake; Tsubota, Susumu (Japan as Represented by Director-General of Agency of Industrial Science and, Japan; Nippon Shokubai Co., Ltd.). PCT Int. Appl. WO 9943431 A1 19990902, 64 pp. DESIGNATED STATES: W: CN, JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1999-JP753 19990219. PRIORITY: JP 1998-41833 19980224.

AB The **catalyst** with stable excellent performance comprises a silylated or hydrophobic titanium-contg. oxide fixed on fine gold particles. Thus, mixing and baking titanium tetrabutoxide fixed silica and silica gel mixt. gave a titanium-silicon compd. oxide, which was mixed with tetrachloroauric acid and baked to give a **catalyst**, then treated with methoxytrimethylsilane and used to **oxidize** trans-2-butene to 2,3-epoxy butane.

IT **13463-67-7P**, Titania, preparation
(**catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)

RN 13463-67-7 HCA

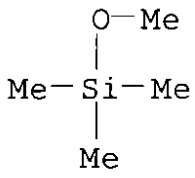
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

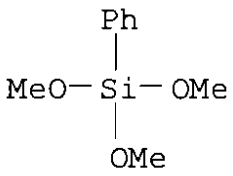
IT **1825-61-2**, Methoxytrimethylsilane **2996-92-1**, Phenyltrimethoxysilane **6843-66-9**, Diphenyldimethoxysilane
(silylation agent; **catalyst** for partial **oxidn**. of unsatd. hydrocarbon to epoxide)

RN 1825-61-2 HCA

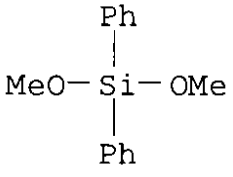
CN Silane, methoxytrimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 2996-92-1 HCA
CN Silane, trimethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 6843-66-9 HCA
CN Silane, dimethoxydiphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

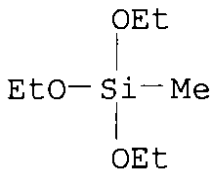


IC ICM B01J023-52
ICS C07D301-04
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 67
ST titania silica silylation **oxidn catalyst** epoxide
IT Epoxidation **catalysts**
(**catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)
IT Titanates
(**catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)
IT **13463-67-7P**, Titania, preparation
(**catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)
IT 75-56-9P, Propylene oxide, preparation 3266-23-7P, 2,3-Epoxybutane 204759-74-0P, Magnesium silicon titanium oxide
(**catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)
IT 115-07-1, Propylene, reactions 123-54-6D, Acetylacetone, titanium complexes 624-64-6, trans-2-Butene 7440-32-6D, Titanium,

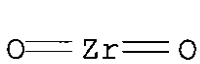
acetylacetone complexes, reactions 16903-35-8, Tetrachloroauric acid
(**catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)
IT 7631-86-9, Snowtex N, uses
(colloidal; **catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)
IT 546-68-9, Tetraisopropyltitanate 5593-70-4, Titanium tetrabutoxide 10377-60-3, Magnesium nitrate 65104-06-5
(for **catalyst**; **catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)
IT 107-46-0 **1825-61-2**, Methoxytrimethylsilane **2996-92-1**, Phenyltrimethoxysilane **6843-66-9**, Diphenyldimethoxysilane
(silylation agent; **catalyst** for partial **oxidn**. of unsatd. hydrocarbon to epoxide)
IT 7440-57-5P, Gold, preparation
(support; **catalyst** for partial **oxidn.** of unsatd. hydrocarbon to epoxide)

L59 ANSWER 8 OF 12 HCA COPYRIGHT 2004 ACS on STN
129:294420 Selective **oxidations** on vanadium oxide containing amorphous mixed oxides (AMM-V) with tert.-butylhydroperoxide. Deng, Y.; Hunnius, M.; Storck, S.; Maier, W. F. (Max-Planck-Inst. Kohlenforschung, Muelheim an der Ruhr, D-45470, Germany). DGMK Tagungsbericht, 9803(Proceedings of the DGMK-Conference "Selective Oxidations in Petrochemistry", 1998), 191-199 (English) 1998. CODEN: DGTAF7. ISSN: 1433-9013. Publisher: Deutsche Wissenschaftliche Gesellschaft fuer Erdoel, Erdgas und Kohle.
AB Amorphous mixed oxides were used for **catalytic oxidns.** To avoid interference with homogeneously **catalyzed** reactions, the study focused on selective **oxidns.** in a moisture-free medium with tBuOOH. The **catalytic** properties of isolated V centers in amorphous microporous materials based on SiO2, TiO2, ZrO2, and Al2O3 as supports were investigated and the effects of surface polarity on the **oxidn.** of 1-octene and cyclohexane were studied. By cocondensation with MeSi(OEt)3 the surface polarity of all materials were adjusted in the 1-step prepn. procedure. Although the TiO2-, ZrO2-, and Al2O3-based V mixed oxides showed remarkable activities and selectivities, the SiO2-based ones were the best **catalysts** for the epoxidn. and **oxidn.** of cyclohexane.
IT **2031-67-6**, TriethoxyMethylsilane
(selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide in relation to MeSi(OEt)3-modified surface polarity)
RN 2031-67-6 HCA

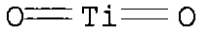
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



IT **1314-23-4**, Zirconia, uses **13463-67-7**, Titania, uses
(support; selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by octene and cyclohexane)
RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



CC 67-2 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
ST vanadium mixed oxide **oxidn catalyst** support; selective **oxidn catalyst** vanadium oxide cyclohexane; epoxidn **catalyst** vanadium oxide octene; hydroperoxide **oxidn** vanadium oxide **catalyst** support; surface polarity vanadium oxide **catalyst oxidn**
IT **Catalyst** supports
(selective **oxidn.** properties of vanadium oxide **catalysts** with tert.-butylhydroperoxide in relation to)
IT Epoxidation **catalysts**
(selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by octene and cyclohexane)
IT **Oxidation catalysts**
(selective; selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by octene and cyclohexane)
IT Polarity
(surface; selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide

in relation to MeSi(OEt)3-modified)

IT 75-91-2, tert.-Butylhydroperoxide
(**oxidant**; selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by octene and cyclohexane)

IT **2031-67-6**, TriethoxyMethylsilane
(selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide in relation to MeSi(OEt)3-modified surface polarity)

IT 111-66-0, 1-Octene
(selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by epoxidn. of)

IT 11099-11-9, Vanadium oxide
(selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by octene and cyclohexane)

IT 110-82-7, Cyclohexane, reactions
(selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by **oxidn.** of)

IT **1314-23-4**, Zirconia, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses **13463-67-7**, Titania, uses
(support; selective **oxidn.** properties of vanadium oxide-contg. amorphous mixed oxides with tert.-butylhydroperoxide studied by octene and cyclohexane)

L59 ANSWER 9 OF 12 HCA COPYRIGHT 2004 ACS on STN

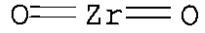
127:83477 Microporous amorphous mixed oxides, and manufacture of high-porosity oxide and mixed oxide **catalysts**. Maier, Wilhelm F. (Studiengesellschaft Kohle mbH, Germany). Ger. Offen. DE 19545042 A1 19970605, 13 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1995-19545042 19951202.

AB In dry form, the microporous amorphous mixed oxides have total surface area 20-1000 m2/g and contain 0.1-20 wt.% nonhydrolyzable org. groups. The high-porosity oxides and mixed oxides are manufd. by copolycondensing alkyl- or aryloxysilanes contg. nonhydrolyzable R' groups of type R'Si(OR)3 (R = Me, Et, Me2CHO, CnH2n+1 and Ph, CnH2nCl, CnH2nNH2, CnH2nCOOH, CnH2nOH, CnH2nCF3, CH2CH:CH2, CHCOCH3, CH2NR4, o-, m-, p-functionalized aryl groups) with known components of the sol-gel process. The surface polarity of these high-porosity materials can be controlled independently of their compn., and these materials are suitable for use as, e.g., alkylation, ammoxidn., epoxidn., hydroxylation, and **oxidn. catalysts**. A soln. of Si(EtO)4 8, MeSi(EtO)3 1.8, Ti(Me2CHO)4 0.133 in 7.9 mL EtOH was contacted with 8N HCl 1.98 mL to give a gel that was heated to 65° at 0.2 degree/min under protective atm., kept at 65° for 3 h, heated to 250° at 0.2 degree/min under

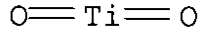
protective atm., and kept at 250° for 3 h to give amorphous TiO2:79.2SiO2:19.8 MeSiO1.5 having surface area 545 m2/g and pore diam. 0.72 nm. These type of.

IT **1314-23-4**, Zirconia, formation (nonpreparative)
13463-67-7, Titania, formation (nonpreparative)
(formation of; in high-porosity oxide and mixed oxide **catalyst** manuf. by sol-gel process)

RN 1314-23-4 HCA
CN Zirconium oxide (ZrO2) (8CI, 9CI) (CA INDEX NAME)

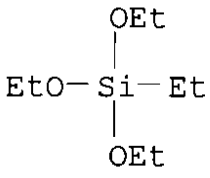


RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

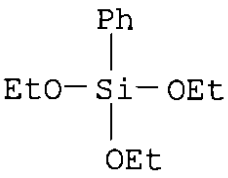


IT **78-07-9**, Ethyltriethoxysilane **780-69-8**, Phenyltriethoxysilane **1067-25-0**, Propyltrimethoxysilane **2031-67-6**, Methyltriethoxysilane **3069-19-0**, n-Hexyltrimethoxysilane **17980-47-1**, Isobutyltriethoxysilane
(in high-porosity microporous amorphous oxide and mixed oxide **catalyst** manuf. by sol-gel process)

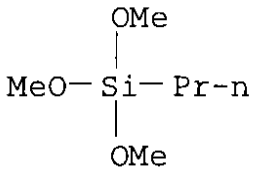
RN 78-07-9 HCA
CN Silane, triethoxyethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



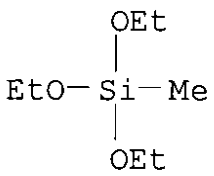
RN 780-69-8 HCA
CN Silane, triethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



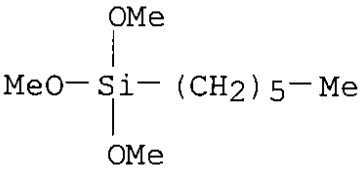
RN 1067-25-0 HCA
CN Silane, trimethoxypropyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



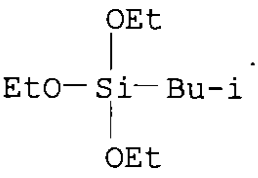
RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



RN 3069-19-0 HCA
CN Silane, hexyltrimethoxy- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 17980-47-1 HCA
CN Silane, triethoxy(2-methylpropyl)- (9CI) (CA INDEX NAME)



IC ICM C01B033-155
ICS C01G001-02; B01J035-10; B01J021-06; B01J021-04; B01J023-00; B01J021-10; C03B008-02; C03C004-00; C07D301-19; C07D301-12
ICA B01J020-02; B01D071-02; B01D053-22
ICI B01J023-14, B01J101-42; B01J023-14, B01J101-50; B01J023-22, B01J101-42
CC 49-3 (Industrial Inorganic Chemicals)
Section cross-reference(s): 45, 57
ST microporous amorphous mixed oxide **catalyst**; alkylalkoxysilane hydrolysis mixed oxide; arylalkoxysilane

hydrolysis mixed oxide; titania silica methylsilicon sesquioxide **catalyst**; tetraethoxysilane hydrolysis mixed oxide; methyltriethoxysilane hydrolysis mixed oxide; titanium tetraisopropoxide hydrolysis mixed oxide

IT Oxides (inorganic), formation (nonpreparative)
Transition metal oxides
(formation of; in high-porosity oxide and mixed oxide **catalyst** manuf. by sol-gel process)

IT Alkylation **catalysts**
Epoxidation **catalysts**
Hydroxylation **catalysts**
Oxidation catalysts
(high-porosity oxide and mixed oxide **catalyst** manuf. for)

IT Aromatic hydrocarbons, processes
(high-porosity oxide and mixed oxide **catalyst** manuf. for alkylation of)

IT Metals, formation (nonpreparative)
(in high-porosity oxide and mixed oxide **catalyst** manuf. by sol-gel process)

IT **1314-23-4**, Zirconia, formation (nonpreparative) 1344-28-1, Alumina, formation (nonpreparative) 7631-86-9, Silica, formation (nonpreparative) **13463-67-7**, Titania, formation (nonpreparative)
(formation of; in high-porosity oxide and mixed oxide **catalyst** manuf. by sol-gel process)

IT 108-94-1, Cyclohexanone, processes
(high-porosity oxide and mixed oxide **catalyst** manuf. for ammoxidn. of)

IT 108-95-2P, Phenol, preparation
(high-porosity oxide and mixed oxide **catalyst** manuf. for benzene hydroxylation for manuf. of)

IT 100-64-1P
(high-porosity oxide and mixed oxide **catalyst** manuf. for cyclohexanone ammoxidn. for manuf. of)

IT 111-66-0, 1-Octene 115-07-1, Propene, processes 4904-61-4, 1,5,9-Cyclododecatriene
(high-porosity oxide and mixed oxide **catalyst** manuf. for epoxidn. of)

IT 71-43-2, Benzene, processes
(high-porosity oxide and mixed oxide **catalyst** manuf. for hydroxylation of)

IT 75-56-9P, Propylene oxide, preparation 50337-75-2P 69775-79-7P, Hexyl-tert-butyl ether
(high-porosity oxide and mixed oxide **catalyst** manuf. for manuf. of)

IT 75-91-2, tert-Butylhydroperoxide
(high-porosity oxide and mixed oxide **catalyst** manuf.

for octene-1 epoxidn. with)

IT 64-17-5, Ethanol, processes 100-41-4, Ethylbenzene, processes 108-88-3, Toluene, processes
(high-porosity oxide and mixed oxide **catalyst** manuf. for selective **oxidn.** of)

IT 75-07-0P, Acetaldehyde, preparation
(high-porosity oxide and mixed oxide **catalyst** manuf. for selective **oxidn.** of ethanol for manuf. of)

IT 7722-84-1P, Hydrogen peroxide, preparation
(high-porosity oxide and mixed oxide **catalyst** manuf. for selective **oxidns.** with)

IT 78-10-4, Tetraethoxysilane
(hydrolysis of; in high-porosity microporous amorphous oxide and mixed oxide **catalyst** manuf. by sol-gel process)

IT **78-07-9**, Ethyltriethoxysilane 301-10-0 546-68-9, Titanium tetraisopropoxide **780-69-8**, Phenyltriethoxysilane 993-02-2, Manganese(III) acetate **1067-25-0**, Propyltrimethoxysilane 1071-76-7, Zirconium tetra-n-butoxide **2031-67-6**, Methyltriethoxysilane 2155-74-0, Antimony tributoxide 2269-22-9, Aluminum tri-sec-butoxide **3069-19-0**, n-Hexyltrimethoxysilane 3153-26-2 14995-22-3, 2-Propanol, iron(3+) salt **17980-47-1**, Isobutyltriethoxysilane 23519-77-9 31087-39-5, Chromium tri-isopropoxide
(in high-porosity microporous amorphous oxide and mixed oxide **catalyst** manuf. by sol-gel process)

L59 ANSWER 10 OF 12 HCA COPYRIGHT 2004 ACS on STN

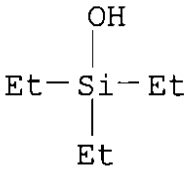
126:251568 Manufacture of phosphorus-vanadium oxide **catalyst** precursors for gas-phase **oxidation** of hydrocarbons to maleic anhydride. Tsurita, Yasushi; Ito, Masumi (Mitsubishi Chemical Corp., Japan). Jpn. Kokai Tokkyo Koho JP 09052049 A2 19970225 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-209513 19950817.

AB Title precursors, useful for manuf. of maleic anhydride from hydrocarbones (preferably butane), are manufd. by reaction of pentavalent V compds. with H3PO4 in the presence of R4-nSi(OR')n (R = hydrocarbons; R' = H, alkyl; n = 1-3) and optionally ≥1 compds. of Fe, Co, Zn, or Zr in org. solvents, which at least partially reduce pentavalent V compds. to tetravalent compds. Thus, 18.19 g V2O5 was treated with 23.76 g 99% H3PO4 in the presence of 26.46 g Et3SiOH in 2-methylpropanol and then filtrated to obtain a **catalyst** precursor, which was treated at 550-600°, molded, and crushed to give a **catalyst**. A butane-air mixt. gas (butane content 4 mol%) was passed through a column filled with the **catalyst** at 428° to give maleic anhydride in 59.6% yield.

IT **597-52-4**, Triethylsilanol **1314-62-1**, Vanadium oxide, uses

(manuf. of composite oxide gas-phase **oxidn.** **catalyst** precursors from vanadium compds., phosphoric acid, and alkoxysilanols)

RN 597-52-4 HCA
CN Silanol, triethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1314-62-1 HCA
CN Vanadium oxide (V2O5) (8CI, 9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IC ICM B01J027-198
ICS C07B061-00; C07D307-60
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
ST alkylsilanol vanadium oxide phosphoric acid **catalyst**; gas phase **oxidn catalyst** composite oxide; maleic anhydride manuf butane **oxidn catalyst**
IT Alcohols, uses
(C3-6, aliph.; manuf. of composite oxide gas-phase **oxidn** . **catalyst** precursors from vanadium compds., phosphoric acid, and alkoxysilanols)
IT **Oxidation catalysts**
(gas-phase; manuf. of composite oxide gas-phase **oxidn.** **catalyst** precursors from vanadium compds., phosphoric acid, and alkoxysilanols)
IT **597-52-4**, Triethylsilanol **1314-62-1**, Vanadium oxide, uses 7664-38-2, Phosphoric acid, uses
(manuf. of composite oxide gas-phase **oxidn.** **catalyst** precursors from vanadium compds., phosphoric acid, and alkoxysilanols)
IT 108-31-6P, Maleic anhydride, preparation
(manuf. of composite oxide gas-phase **oxidn.** **catalyst** precursors from vanadium compds., phosphoric acid, and alkoxysilanols)
IT 78-83-1, uses
(manuf. of composite oxide gas-phase **oxidn.** **catalyst** precursors from vanadium compds., phosphoric acid, and alkoxysilanols)
IT 106-97-8, Butane, reactions
(manuf. of composite oxide gas-phase **oxidn.** **catalyst** precursors from vanadium compds., phosphoric acid, and alkoxysilanols)

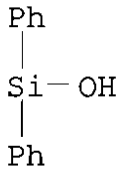
L59 ANSWER 11 OF 12 HCA COPYRIGHT 2004 ACS on STN
117:171542 Bistriphenylsilanol-assisted **oxidation** **catalyzed** by chromium(VI) oxide of activated trimethylsilyl ethers with tert-butyl hydroperoxide. Muzart, Jacques; Ajjou, Abdelazia N'Ait (Unite Rech. Rearrangements Thermiques et Photochimiques, Univ. Reims Champagne-Ardenne, Reims, 51062, Fr.). Synthetic Communications, 22(14), 1993-6 (English) 1992. CODEN: SYNCAV. ISSN: 0039-7911. OTHER SOURCES: CASREACT 117:171542.

AB Secondary benzylic or allylic trimethylsilyl ethers are **oxidized** at room temp. to the corresponding ketones in good yields using aq. 70% tert-BuOOH and **catalytic** amts. of a mixt. of Ph3SiOH and CrO3. Thus, reaction of PhCH(OSiMe3)R [R = Me, Et, Ph, (CH2)2CO2Me] in CH2Cl2 in the dark with the above reagent and **catalysts** afforded the ketones PhCOR in 93-99% yield.

IT **791-31-1**, Triphenylsilanol
(**catalyst** with chromium trioxide, for **oxidn.** of benzylic or allylic trimethylsilyl ethers to ketones)

RN 791-31-1 HCA

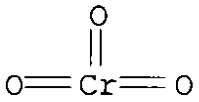
CN Silanol, triphenyl- (8CI, 9CI) (CA INDEX NAME)



IT **1333-82-0**, Chromium trioxide
(**catalyst**, with triphenylsilanol, for **oxidn.** of benzylic or allylic trimethylsilyl ethers to ketones)

RN 1333-82-0 HCA

CN Chromium oxide (CrO3) (8CI, 9CI) (CA INDEX NAME)



CC 29-6 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 23

ST **oxidn** trimethylsilyl ether chromium trioxide **catalyst**; ketone; chromium trioxide triphenyl silanol **catalyst oxidn**

IT **Oxidation catalysts**
(chromium trioxide and triphenylsilanol, for activated trimethylsilyl ethers with tert-Bu hydroperoxide)

IT **Oxidation**

(of benzylic or allylic trimethylsilyl ethers in presence of chromium trioxide and triphenylsilanol, ketones from)

IT Ketones, preparation
(prepn. of, by **catalytic oxidn.** of activated trimethylsilyl ethers)

IT Ethers, reactions
(trimethylsilyl, **oxidn.** of, with tert-Bu hydroperoxide in presence of chromium trioxide and triphenylsilanol)

IT **791-31-1**, Triphenylsilanol
(**catalyst** with chromium trioxide, for **oxidn.** of benzylic or allylic trimethylsilyl ethers to ketones)

IT **1333-82-0**, Chromium trioxide
(**catalyst**, with triphenylsilanol, for **oxidn.** of benzylic or allylic trimethylsilyl ethers to ketones)

IT 143878-48-2P
(formation of, in **catalytic oxidn.** of (methoxyphenyl)trimethylsilyloxyoctane)

IT 75-91-2, tert-Butyl hydroperoxide
(**oxidn.** by, of benzylic or allylic trimethylsilyl ethers in presence of chromium oxide and triphenylsilanol)

IT 14629-59-5 14856-75-8 62559-30-2 106543-48-0 136116-39-7 136116-40-0 136116-41-1
(**oxidn.** of, to ketone, **catalyst** for)

IT 143878-46-0
(**oxidn.** of, with hydroperoxide in presence of chromium trioxide and triphenylsilanol)

IT 93-55-0P, Ethyl phenyl ketone 98-86-2P, Acetophenone, preparation 119-61-9P, Diphenyl ketone, preparation
(prepn. of, from **catalytic oxidn.** of benzylic trimethylsilyl ether)

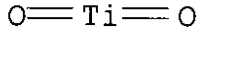
L59 ANSWER 12 OF 12 HCA COPYRIGHT 2004 ACS on STN

116:224477 Photooxidative degradation of the pesticide permethrin **catalyzed** by irradiated titania semiconductor slurries in aqueous media. Hidaka, Hisao; Nohara, Kayo; Zhao, Jincai; Serpone, Nick; Pelizzetti, Ezio (Dep. Chem., Meisei Univ., Tokyo, 191, Japan). Journal of Photochemistry and Photobiology, A: Chemistry, 64(2), 247-54 (English) 1992. CODEN: JPPCEJ. ISSN: 1010-6030.

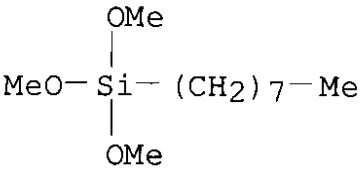
AB Permethrin, the organochlorine pesticide, can be photodegraded into Cl- and CO2 with TiO2 semiconductor **catalyst**. The arom. moiety in permethrin is easily cleaved via apparent 1st-order kinetics. The arom.-ring opening rate (1.73 + 10-3 min-1) is nearly identical with the dechlorination rate (1.82 + 10-3 min-1). The presence of the TiO2 **catalyst**, UV irradn. and O gas are essential for photooxidn. at a reasonable rate. The insol. permethrin (in H2O) can be efficiently photodegraded in a TiO2 slurry of hexane-H2O mixt. under solar exposure with high conversion >90%), even at high concn. (17000 ppm), in 8 h. The

hydrophobic TiO2 **catalyst** (T-805) modified by octyltrimethoxysilane shows better photocatalytic activity than the pure TiO2 (P-25).

IT **13463-67-7**, Titania, properties
(photocatalyst, in photodegrdn. of permethrin)
RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **3069-40-7**
(titania powder modification using, photodegrdn. of permethrin **catalyzed** by)
RN 3069-40-7 HCA
CN Silane, trimethoxyoctyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 5

ST photooxidn pesticide permethrin titania **catalyst**; photodegrdn pesticide permethrin titania **catalyst**; photolysis pesticide permethrin titania **catalyst**; photocatalysis pesticide permethrin **oxidative** degrdn

IT **Oxidation**, photochemical
(of permethrin, **catalyzed** by titania, improvement of **catalytic** activity by modification with octyltrimethoxysilane in)

IT Pesticides
(photodegrdn. of, **catalyzed** by titania)

IT Photolysis **catalysts**
(titania, modified by octyltrimethoxysilane, in degrdn. of pesticide permethrin)

IT **Catalysts** and **Catalysis**
(photochem., **oxidn.** of permethrin, modification of titania **catalyst** by octyltrimethoxysilane in)

IT 124-38-9P, Carbon dioxide, preparation 16887-00-6P, Chloride, preparation
(formation of, in photodegrdn. of permethrin, **catalyzed** by titania)

IT **13463-67-7**, Titania, properties

(photocatalyst, in photodegrdn. of permethrin)
IT 110-54-3, Hexane, properties 7722-84-1, Hydrogen peroxide (H2O2), properties 7727-37-9, Nitrogen, miscellaneous
(photodegrdn. of permethrin **catalyzed** by titania in presence of)
IT 7732-18-5, Water, properties
(photodegrdn. of pesticide permethrin **catalyzed** by titania in)
IT 52645-53-1, Permethrin
(photodegrdn. of, **catalyzed** by titania)
IT **3069-40-7**
(titania powder modification using, photodegrdn. of permethrin **catalyzed** by)

=> d l60 1-25 ti

L60 ANSWER 1 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Fe2O3-SiO2 nanocomposites obtained by different sol-gel routes

L60 ANSWER 2 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Siloxane-anchored thin films on silicon dioxide-modified stainless steel

L60 ANSWER 3 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Self-Assembled Monolayers Supported on TiO2: Comparison of C18H37SiX3 (X = H, Cl, OCH3), C18H37Si(CH3)2Cl, and C18H37PO(OH)2

L60 ANSWER 4 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Photostable sunscreen compositions containing Kaempferia galanga extracts

L60 ANSWER 5 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Manufacture of sintered oxide-type ceramic molding material used for dental fillings

L60 ANSWER 6 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Composition and method of making a ferrofluid with chemical stability

L60 ANSWER 7 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Structure of hybrid (organic/inorganic) TiO2-SiO2 xerogels. II: thermal behavior as monitored by temperature-programmed techniques and spectroscopy

L60 ANSWER 8 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI **Oxidative** deprotection of trimethylsilyl ethers to carbonyl compounds with PdCl2(PhCN)2-CrO3 and clay-

bis(trimethylsilyl) chromate in solventless system

L60 ANSWER 9 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Amperometric detection of carbohydrates by capillary electrophoresis with a cuprous oxide modified sol-gel carbon composite electrode

L60 ANSWER 10 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Process and composition for producing a magnetic fluid

L60 ANSWER 11 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Water-in-oil emulsion cosmetics

L60 ANSWER 12 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Porous silica-based ceramic composite parts and their manufacture for gas separation

L60 ANSWER 13 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Hydrophobic treatment of pigments for drier pigments, method of pigment treatment, pigment dispersions and use in inks

L60 ANSWER 14 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Fluorescence detection and electrochemistry in hybrid zirconia xerogels including chromophores or electroactive species

L60 ANSWER 15 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Reproducible receptor paper for thermal-transfer printing or electrophotography

L60 ANSWER 16 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Electrostatographic developer toner containing polyolefin wax antioffset agent

L60 ANSWER 17 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Manufacture of solid electrolytic capacitor using polymer electrolyte

L60 ANSWER 18 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Chemically stable magnetic fluid composition and its preparation

L60 ANSWER 19 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Treatment of transition metal containing pigments with chelating or silylating compounds

L60 ANSWER 20 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Modified metal oxide layer as support for active materials and reagents

L60 ANSWER 21 OF 25 HCA COPYRIGHT 2004 ACS on STN

TI Materials and methods for enhanced photocatalysis of organic compounds in oil spill treatment

L60 ANSWER 22 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Graphite composite products and their manufacture

L60 ANSWER 23 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Silver oxide battery electrodes

L60 ANSWER 24 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Derivatographic study of poly(diorganosiloxane) rubbers

L60 ANSWER 25 OF 25 HCA COPYRIGHT 2004 ACS on STN
TI Peroxo compounds. XI. Nonradical substitution and redox reactions of bis(trimethylsilyl) peroxide

=> d l60 2,19,20 cbib abs hitstr hitind

L60 ANSWER 2 OF 25 HCA COPYRIGHT 2004 ACS on STN
139:233306 Siloxane-anchored thin films on silicon dioxide-modified stainless steel. Meth, Sergio; Sukenik, Chaim N. (Chemistry Department, Bar-Ilan University, Ramat-Gan, 52900, Israel). Thin Solid Films, 425(1-2), 49-58 (English) 2003. CODEN: THSFAP. ISSN: 0040-6090. Publisher: Elsevier Science B.V..

AB Siloxane-anchored self-assembled monolayers were obtained on stainless steel. Initially the surface of the material was treated with tetraalkylorthosilicate to obtain a thin layer of SiO2 (<3 nm). This layer effectively anchors the subsequent attachment of alkyl trialkoxysilanes like octadecyltrimethoxysilane. Some of the versatility of this approach was demonstrated by depositing thioacetate (TA)-hexadecyltrimethoxysilane on SiO2-modified stainless steel and forming a TA functionalized film. In situ **oxidn.** of the TA groups yielded a sulfonate-functionalized surface that was used to promote deposition of an adherent, pore-free, TiO2 layer from aq. soln. onto the stainless steel substrate.

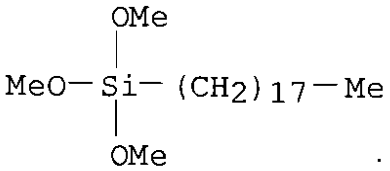
IT **13463-67-7**, Titania, processes
(deposition of titania on thioacetate hexadecyltrimethoxysilane self-assembled monolayers on silica-modified stainless steel)

RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

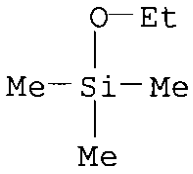
IT **3069-42-9D**, Octadecyltrimethoxysilane, silica-bound
(self-assembled monolayer; siloxane-anchored self-assembled

monolayers on silica-modified stainless steel)
RN 3069-42-9 HCA
CN Silane, trimethoxyoctadecyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

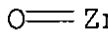


CC 55-6 (Ferrous Metals and Alloys)
IT **13463-67-7**, Titania, processes
(deposition of titania on thioacetate hexadecyltrimethoxysilane self-assembled monolayers on silica-modified stainless steel)
IT **3069-42-9D**, Octadecyltrimethoxysilane, silica-bound
(self-assembled monolayer; siloxane-anchored self-assembled monolayers on silica-modified stainless steel)

L60 ANSWER 19 OF 25 HCA COPYRIGHT 2004 ACS on STN
126:318493 Treatment of transition metal containing pigments with chelating or silylating compounds. Kwan, Wing Sum Vincent (General Electric Co. PLC, UK). PCT Int. Appl. WO 9712944 A1 19970410, 34 pp. DESIGNATED STATES: W: CA, JP, MX; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-GB2415 19961002. PRIORITY: US 1995-4701 19951003; US 1996-588215 19960118; US 1996-653357 19960524.
AB A surface derivatizing agent having an α,γ-diketo moiety, a β-hydroxy acid moiety, a hydroxamic acid moiety, a phosphonic acid moiety, or a phenolic moiety, or that is a trimethylsilyl donor, is allowed to contact an aq. slurry of pigment particles selected from the group consisting of transition metal contg. pigment particles, transition metal oxide contg. pigment particles, and complexes of transition metals or transition metal oxides, to increase the hydrophobicity of the surface of such particles. The modified pigment particles disperse easily in a wide variety of org. solvents and provide stable dispersions having a small mean pigment particle size and narrow particle size distribution. This treatment enhances the color of the pigment in coatings and inks and the resistance of the pigment to moisture, air **oxidn.**, acids, and bases.
IT **1825-62-3**, Trimethylethoxysilane
(treatment of transition metal contg. pigments with chelating or silylating compds. to increase hydrophobicity)
RN 1825-62-3 HCA
CN Silane, ethoxytrimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **1309-37-1**, Red iron oxide, properties **1314-13-2**, Zinc oxide, properties
(treatment of transition metal contg. pigments with chelating or silylating compds. to increase hydrophobicity)
RN 1309-37-1 HCA
CN Iron oxide (Fe2O3) (8CI, 9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 1314-13-2 HCA
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)



IC ICM C09C003-08
ICS C09C003-12; C09C001-24; C09C001-20; C09C001-00; C09C001-62; C09C001-04
CC 42-6 (Coatings, Inks, and Related Products)
ST pigment transition metal hydrophobization; coating ink hydrophobized pigment; base resistant transition metal pigment; acid resistant transition metal pigment; **oxidn** resistant transition metal pigment; moisture resistant transition metal pigment; silyl compd treatment transition metal pigment; phenolic compd treatment transition metal pigment; phosphonic acid treatment transition metal pigment; hydroxamic acid treatment transition metal pigment; hydroxy acid treatment transition metal pigment; diketo compd treatment transition metal pigment; dispersibility enhanced pigment solvent
IT 75-77-4, Trimethylchlorosilane, uses 104-40-5, 4-Nonylphenol 118-93-4 123-54-6, 2,4-Pentanedione, uses 137-99-5, 2,4-Dinonylphenol 141-97-9, Ethyl acetoacetate 999-97-3, Hexamethyldisilazane 1450-14-2, Hexamethyldisilane **1825-62-3**, Trimethylethoxysilane 2083-91-2, Trimethylsilyldimethylamine 3318-61-4, 1-Phenyl-2,4-pentanedione 10416-59-8, Bis-N,O-trimethylsilylacetamide 11099-06-2, Ethyl silicate 12656-85-8, Molybdate orange 13257-81-3, 2-Trimethylsiloxypent-2-en-4-one 18156-74-6, Trimethylsilylimidazole
(treatment of transition metal contg. pigments with chelating or silylating compds. to increase hydrophobicity)
IT **1309-37-1**, Red iron oxide, properties **1314-13-2**, Zinc oxide, properties 1332-37-2, Iron oxide, properties 1344-37-2, Chrome yellow 1345-16-0, Cobalt blue 12227-89-3,

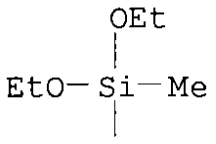
Black iron oxide 14038-43-8, Milori blue
(treatment of transition metal contg. pigments with chelating or silylating compds. to increase hydrophobicity)

L60 ANSWER 20 OF 25 HCA COPYRIGHT 2004 ACS on STN
122:59438 Modified metal oxide layer as support for active materials and reagents. Boettcher, Horst; Kallies, Karl-Heinz (Germany). Ger. Offen. DE 4308146 A1 19940922, 14 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1993-4308146 19930315.

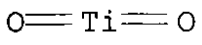
AB Metal oxide layers (Al2O3, SiO3, TiO2) are treated with penetrating agents (salts, orgs., polymers) during formation from gases (CVD, PVD) or solns.(sol-gel process), to increase the porosity of the layer or to change the structure of the layer to increase the absorptivity for active materials. The layers are useful in cosmetics, chem. anal., medical diagnosis, pharmaceuticals.

IT **2031-67-6 13463-67-7**, Titania, uses
(modified metal oxide layer as support for active materials and reagents)

RN 2031-67-6 HCA
CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCA
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IC ICM B01J020-06
ICS B01J020-08; B01J020-10; C23C014-08; C23C016-40; C04B041-80; C04B035-00; C12Q001-00; A61K047-02; A61K007-021; A01N025-08; G01N031-00

ICA B01J020-32; C12Q001-54; C12N011-14; A61K009-28; A61K009-16; A61K031-44; A01N037-02

CC 48-11 (Unit Operations and Processes)
Section cross-reference(s): 9, 62, 63, 80

IT 9001-37-0, Glucose **oxidase** 9003-99-0, Peroxidase
(in sensors for detn. of; modified metal oxide layer as support for active materials and reagents)

IT 69-72-7, Salicylic acid, uses 78-10-4 81-88-9, Rhodamine B 82-18-8 112-39-0, Palmitic acid methyl ester 147-14-8, Copper phthalocyanine 555-31-7, Aluminum triisopropylate 1344-28-1,

Alumina, uses **2031-67-6** 3087-36-3,
Tetraethylorthotitanate 5423-07-4, Nitrazine yellow 7631-86-9,
Silica, uses 7681-49-4, Sodium fluoride, uses 7758-95-4, Lead
chloride 10043-35-3, Boric acid, uses **13463-67-7**,
Titania, uses 21829-25-4, Nifedipine 56499-51-5, Azocarmine
(modified metal oxide layer as support for active materials and
reagents)